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# The Magic Lantern Gazette

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# The Stereopticon Photographic Illustrations

Is there not an old Eastern story of a magician who caused a king to dip his head, only for one moment, into a basin of water, and of the king during that momentary plunge seeming to pass whole years of existence; to be a child again; to re-enact the scenes of youth and manhood; to be transported to far distant lands; to see strange cities, palaces, and people? So, by looking at the astonishing photographs shown nightly at the Assembly Buildings, we, by the virtue of the Stereopticon, go back thousands of years. We live in the land of Egypt, the old, mysterious wonder-land…. By a series of visits to this unequalled exhibition, tableaux after tableaux crowd upon us, marvelous in their life-like distinctness, in their perplexing illusion of serial perspective and *quasi* solidity. A great feature of this exhibition is that travelers appreciate more fully than others the wonderful truthfulness of the objects stereoscopically represented. We heard an eminent professor, the other evening, express himself that he had spent hours looking at the matchless works of the sculptor's art, in the various galleries of Europe; but never saw them to such satisfaction as at this wonderful exhibition. It is the most important and praiseworthy attempt yet made to turn photography to account, in an historical, geographical, and artistic point of view.

*Philadelphia Press*, October 1, 1862

The first thing I did when I started working on this issue of the *Gazette* was to design the covers. At the time, a Thanksgiving theme, with lanterns slides of the Pilgrims and the Mayflower, seemed appropriate for the Fall issue. Of course, that was before it became clear that the Fall issue actually would be coming out in January. Now they don't really have anything to do with the contents of this issue. Never mind—they are nice images anyway, and a year from now, nobody will remember that the issue was a season late.

Most of this issue is occupied by an expanded and fully-referenced version of the talk I gave at the Washington convention last summer. The article explores the changing uses of the words "magic lantern" and "stereopticon" in American periodicals in the last 40 years of the 19th century, and in particular, clarifies the origin and early history of the term "stereopticon." The first public stereopticon exhibitions of photographic slides, which took place just as the Civil War was getting underway, created quite a stir. As the quotation above indicates, viewers were astonished by the realism of this new form of magic lantern slide, presenting scenes of foreign lands that previously had been seen only in rather flat, hand-painted slides. Now views of European cities could be seen in full perspective, frozen almost instantaneously by the camera, while images of great works of sculpture seemed to emerge from the screen with an illusion of three-dimensionality. Most Americans in the 1860s had few opportunities to view sculpture and other fine works of art, because even the largest cities lacked great art museums like those of Europe. The major exception was the Wadsworth Atheneum in Hartford, Connecticut, near where I live—the oldest art museum in the United States, founded in 1842 by Daniel Wadsworth to bring art and culture to ordinary citizens. Hence the excitement of being able to see great works on art depicted on the screen probably could be equaled at the time only by attending a World's Fair, such as the New York Crystal Palace in 1853. Such opportunities were infrequent; the next major World's Fair in the United States was in 1876.

The second article in this issue is a helpful guide to scanning magic lantern slides contributed by Michael Lawlor, who has recently made a career of producing large art prints from old photographic lantern slides. His directions will be useful to anyone wishing to produce images for publication, for a web page, or even an Ebay listing.

The issue concludes with a message from President Dick Moore, a few announcements, and a brief review of a lantern show by the American Magic-Lantern Theater held at the Rubicon Estate in California, contributed by Janet Leigh Foster.

As always, I am eager to receive material for future issues, including major research articles or brief pieces of interest to magic lantern collectors. Perhaps the appearance of my article will encourage other speakers at recent conventions to convert their talks into articles to be shared with the whole membership of the society.

The authentic pieces of antique magic lantern ephemera included with each copy of the *Gazette* come courtesy of Terry Borton. He purchased one of these items on Ebay, and in an unusual twist on the supermarkert "buy-one-get-one-free" offer, it turned into a "buy-one-get-200-free" offer. So thanks to the generosity of the Ebay dealer and Terry Borton, members are receiving a little New Year's magic lantern treat.

**Kentwood D. Wells, Editor**
**451 Middle Turnpike**
**Storrs, CT 06268**
**kentwood.wells@uconn.edu**
**860-429-7458**

# What's in a Name? The Magic Lantern and the Stereopticon in American Periodicals 1860-1900

Kentwood D. Wells
451 Middle Turnpike
Storrs, CT 06268
kentwood.wells@uconn.edu

You have heard of the stereopticon and the stereoscopticon and pantoscopticon and epizooty and the 'unicorn of Scripture,' as the circus-bills say, but this enrichment of the language from the old Greek storehouse is strange. It is nothing more nor less than a new magic lantern suitable for showing glass photographs and other pictures on a large scale. In general, all the opticons are magic lanterns.

I may venture to say that magic lanterns, stereopticons, stereoscopticons, pantoscopticons, and all the other opticons have long been a specialty with me. No man can have a monomania for children without burning his fingers in some fashion over a magic lantern or some kind of an opticon."

Rev. Edward Eggleston,
"Sciopticon Nights,"
*The Pennsylvania School Journal*,
December, 1873, p. 213

Anyone who collects magic lanterns or does research on lanterns and slides is soon struck by the enormous variety of names used to describe these instruments in the 19th century. Different manufacturers coined all sorts of new names for lanterns to emphasize some novel feature of their products. The confusion caused by this proliferation of names is nicely captured in the 1873 passage quoted above. This article examines the use of language about magic lanterns in American periodicals in the second half of the 19th century. Although there are many terms that refer to magic lanterns in the periodical literature, including "lantern slides," "dissolving views," and others, I will focus on the two most commonly used terms, "magic lantern" and "stereopticon." My purpose is not so much to describe the way that these instruments were used, but instead to examine how the use of these terms in popular literature changed over time.[1]

Rather than simply quoting selected passages from various writers, either well-known or obscure, to provide a qualitative assessment of how these terms were used, I have chosen to take a more quantitative approach to analyzing the changing use of the terms "magic lantern" and "stereopticon" over a 40-year period. My analysis is derived from articles in *The American Periodicals Series Online*, a fully searchable database of over 1100 American periodicals founded between 1740 and 1900. It includes an enormous variety of periodicals, including general magazines such as *Frank Leslie's Popular Monthly*, *Scribner's*, *The Munsey*, and *The Cosmopolitan*; women's magazines such as *Harper's Bazaar*; technical magazines such as *Scientific American*; children's magazines such as *St. Nicholas* and *Youth's Companion*; odd periodicals such as the *Phrenological Journal* and *The National Police Gazette*; and dozens of religious periodicals of all denominations. It does not include daily newspapers or illustrated weeklies such as *Leslie's Weekly*, *Harper's Weekly*, or *Collier's Weekly*. The database for many of the periodicals extends beyond 1900, but coverage becomes somewhat spotty, so I have ended my quantitative analysis at the end of the 19th century. Although some of the references to magic lanterns and stereopticons are found in the writings of well-known authors, most are found in passages written by obscure or even anonymous writers. I also searched a variety of other online databases of 19th century newspapers and Google Book Search for information on the early history of the stereopticon.

I searched all years of the *American Periodicals* database for terms such as "magic lantern" and "stereopticon," as well as spelling variants such as "magic lanthorn," "stereoptican," and "stereoscopticon." I then compiled a catalog of all significant references to these terms through the early 1900s. My analysis will be limited to the years between 1860, when the term "stereopticon" first appeared, and 1900. When I refer to "significant references" to these terms, I have omitted all manufacturer's and seller's advertisements, which tended to be repeated over and over in identical form for many years. I also have omitted trivial references, such as a one-line mention that some church or school purchased a new stereopticon. Because of the diversity of publications represented in this database, and the difficulty of locating obscure references to magic lanterns in original printed sources, this series provides a unique tool for tracking the history of the magic lantern in America.

**Origin of the Term "Magic Lantern"**

Before discussing my analysis of the periodical literature, I will briefly review the origins of the terms "magic lantern" and "stereopticon." The name "magic lantern," or its equivalent in various languages, dates to the 17th century and the very earliest days of the lantern. The first use of the term sometimes has been attributed to the Danish showman Thomas Walgenstein, although the precise origin is unclear.[2] In fact, it was not inevitable that this device would be called a magic lantern. In 1676, Johann Christoph Sturm proposed a different name: "For the second type of surely admirable spectacle, we offered a certain lantern Dioptro-Catroptrica or (I find no suitable name for this) Megalographica, which, as is said normally only aphoristically, in the true sense makes an elephant out of a mosquito, in that it copies very small and scarcely two inch high pictures onto the opposite wall in enormous, even colossal size."[3]

A century later, the English scientific instrument maker Benjamin Martin was still advocating the use of this rather cumbersome name for the magic lantern: "The *Magic Lanthorn* is an optical Machine, said to be the Invention of Mr. _____ Kircher, in order to magnify small Objects in a dark Room; and has been since used rather to surprise and amuse ignorant People, and for the Sake of Lucre, than for any other Purpose, and thence it had it's common Name: It has been also called *Lanterna Megalographica*, from it's Property of *magnifying small Objects*."[4] As both a maker of fine scientific instruments and an itinerant scientific lecturer, Martin took a dim view of the term "magic lantern," which he thought diminished the value of this instrument. In 1772, he expanded on his earlier objection to the name: "The Complaint I shall make you is no other than the Knowledge of the Construction, and proper Uses that might be made, of a noble optical Instrument, whose Nature and Use have been but little considered, and those applied to serve the lowest Purposes, by which Means this Instrument has been brought into Disgrace, and acquired the vile Name of Magic Lanthorn… But, after all, nothing more has been done with the Magic Lanthorn, to answer the execrable Views of Sorcerers, than is daily practised with the Bible itself, by the Professors of pious Frauds…If there were no Fools, there could be no knavish Pretenders to the Magic Art, nor should we ever have heard of any such Thing as a *Magic* Lanthorn. We shall therefore discard the infamous Appellation of *Magic*, and substitute in its Room the true and deserved Epithet of *Megalographic Lanthorn*..."[5]

Obviously Martin's cumbersome name Megalographic Lantern did not catch on, and by the 19th century, the name "magic lantern" was in almost universal use. Here we have a typical definition of the magic lantern from a mid-19th century dictionary of science: "An optical instrument by means of which small figures, painted with transparent varnish on slides of glass, are represented on a wall or screen considerably magnified. It is generally used as a toy, and affords amusement from the grotesque character of the figures."[6]

Benjamin Martin, an 18th century English instrument maker. He argued that the term "magic lantern" was not a sufficiently dignified name for such an important scientific instrument, and he advocated the use of the term "Megalographic Lantern."

**The Coming of the Stereopticon**

In the early 1860s, advertisements and newspaper articles began to appear throughout the northeastern United States trumpeting "The Stereopticon" as a marvelous new form of entertainment. Starting in late 1860, two business partners, Philip E. Abel and Thomas Leyland, were exhibiting "The Stereopticon" in the Philadelphia area. Notices for Abel and Leyland's Stereopticon appeared in the *Philadelphia Inquirer*, *The Press*, the *Saturday Evening Post*, and *Arthur's Home Magazine*, all published in Philadelphia, from early February through late April, 1861.[8] After being shown in Philadelphia for about three months, Abel and Leyland's Stereopticon moved to Boston.[9]

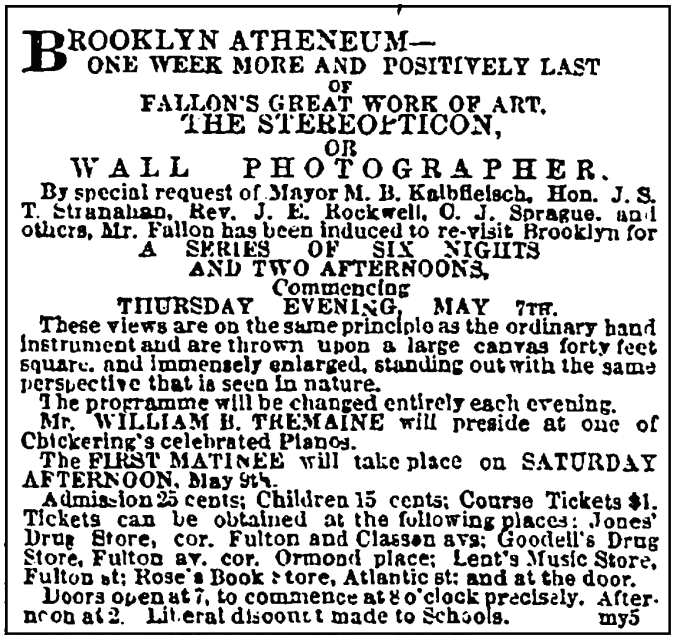
In 1862 and 1863, notices for "Fallon's Stereopticon" appeared in the *Hartford Daily Courant, The New York Times*, the *Brooklyn Daily Eagle*, and other New York area papers.[10] Some authors have suggested that Fallon's Stereopticon was an improvement upon the one used by Abel and Leyland.[11] In fact, the evidence indicates that all of these early broadsides and announcements refer to the same instrument, which was

ABEL & LEYLAND'S

STEREOPTICON!

ASSEMBLY BUILDINGS,
TENTH and CHESTNUT Streets.
EVERY EVENING THIS (THE TENTH) WEEK.
MONDAY—Egypt and the Holy Land.
TUESDAY—France, Spain, &c.
WEDNESDAY—England, &c.
THURSDAY—Italy, &c.
FRIDAY—America, &c.
SATURDAY—Up the Rhine, Switzerland, &c.
Admission 25 cents. Children, 15 cents.
Doors open at 7½; commence at 8 o'clock.
MATINEE WEDNESDAY AND SATURDAY ONLY.
Commencing at three o'clock. ap8-6t

Notice for Abel & Leyland's Stereopticon, *Philadelphia Press*, April 11, 1861.



BROOKLYN ATHENEUM—
ONE WEEK MORE AND POSITIVELY LAST
OF
FALLON'S GREAT WORK OF ART,
THE STEREOPTICON,
OR
WALL PHOTOGRAPHER.

By special request of Mayor M. B. Kalbfleisch, Hon. J. S. T. Stranahan, Rev. J. E. Rockwell, O. J. Sprague, and others, Mr. Fallon has been induced to re-visit Brooklyn for
A SERIES OF SIX NIGHTS
AND TWO AFTERNOONS,
Commencing
THURSDAY EVENING, MAY 7TH.

These views are on the same principle as the ordinary hand instrument and are thrown upon a large canvas forty feet square, and immensely enlarged, standing out with the same perspective that is seen in nature.

The programme will be changed entirely each evening.

Mr. WILLIAM B. TREMAINE will preside at one of Chickering's celebrated Pianos.

The FIRST MATINEE will take place on SATURDAY AFTERNOON, May 9th.

Admission 25 cents; Children 15 cents; Course Tickets $1. Tickets can be obtained at the following places: Jones' Drug Store, cor. Fulton and Classon avs; Goodell's Drug Store, Fulton av. cor. Ormond place; Lent's Music Store, Fulton st; Rose's Book Store, Atlantic st; and at the door.

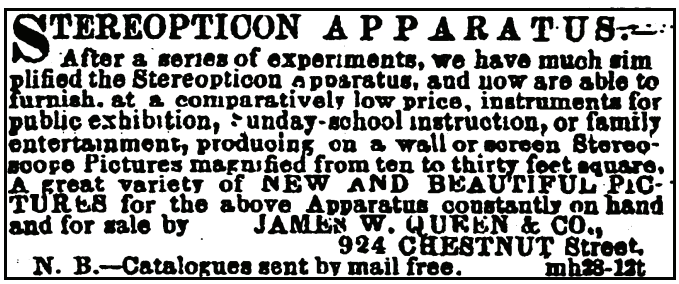
Doors open at 7, to commence at 8 o'clock precisely. Afternoon at 2. Liberal discount made to Schools. my5

Announcement for Fallon's Stereopticon, *Brooklyn Daily Eagle*, May 8, 1863.

owned by John Fallon. A pamphlet written by Fallon and published in 1863 states that his Stereopticon was first exhibited in Philadelphia and then moved to Boston.[12] The only stereopticon being presented in Philadelphia in the early 1860s and subsequently in Boston was that of Abel and Leyland, so it is clear that Abel and Leyland's Stereopticon and Fallon's Stereopticon are one and the same thing [I will discuss John Fallon and the beginnings of the stereopticon in America in more detail in a future article]. From Fallon's broadsides and contemporary newspaper accounts, it is clear that Fallon's Stereopticon was used to project photographs, was illuminated by limelight, and could be used to produce dissolving effects, although Fallon's advertising did not highlight this last feature.[13]

Almost as soon as Abel and Leyland introduced Fallon's Stereopticon to the public, other exhibitors began to adopt the name, or similar ones, for their own lantern slide shows. Shortly after Abel and Leyland's Stereopticon completed its run in Philadelphia, another show was announced in the same venue, featuring "Stereopticon Scenes of the Great Rebellion."[14] Abel and Leyland felt compelled to place a notice in the newspaper stating that "The exhibition advertised at the Assembly Buildings *is not* Abel & Leyland's Stereopticon. The apparatus belonging to these gentlemen is the only one of the kind in the country capable of producing stereoscopic pictures as displayed some few weeks ago, and which were so much admired."[15] An advertisement placed in *The New York Times* in 1863 warned that "Fallon's Original Exhibition of the Stereopticon, which has received such enthusiastic commendation from the Press and public. . . is being extensively imitated, under all sorts of names and by all sorts of persons, some of them using old magic lanterns, dissolving views, &c. &c., &c.; and by slightly changing the name, and in some cases copying our bills and notices, these parties endeavor to give the impression that theirs is the original, or an equally meritorious exhibition. The latest of these imitators use the words Stereophan and Stereoscopticon."[16] A broadside for Fallon's Stereopticon referred to these imitators as "despicable pilferers."[17]

Fallon's protest against imitators was a futile exercise. As early as 1861, William Langenheim had issued a catalog that listed "Magic Lantern Pictures" as well as slides for "The Dissolving View and Stereopticon Apparatus," indicating that stereopticons were commercially available by that point.[18] Indeed, in 1861, Philadelphia lantern maker James W. Queen already was advertising a "Stereopticon Apparatus," stating that "After a series of experiments, we have much simplified the Stereopticon apparatus, and now are able to furnish, at a comparatively low price, instruments for public exhibition, Sunday-school instruction, or family entertainments, producing on a wall or screen Stereoscope pictures magnified from ten to thirty feet square." By 1863, Queen was advertising "Stereoscopticons for Public Exhibitions in large or small halls," using a spelling that found some currency in the 1860s and then largely disappeared.[19]



STEREOPTICON APPARATUS.—

After a series of experiments, we have much simplified the Stereopticon apparatus, and now are able to furnish, at a comparatively low price, instruments for public exhibition, Sunday-school instruction, or family entertainment, producing on a wall or screen Stereoscope Pictures magnified from ten to thirty feet square. A great variety of NEW AND BEAUTIFUL PICTURES for the above Apparatus constantly on hand and for sale by JAMES W. QUEEN & CO.,
924 CHESTNUT Street.
N. B.—Catalogues sent by mail free. mh28-12t

The James W. Queen Co. was selling its own stereopticons almost as soon as Abel & Leyland's show opened in Philadelphia. *Philadelphia Press*, April 11, 1861.

By the mid-1860s, the term "stereopticon" had taken on a more generic meaning, often losing the capitalized spelling seen in earlier announcements. Fallon's Stereopticon was no longer unique. Indeed, stereopticon exhibitions were popping up all over: Somerset's "Stereopticon of the Southern Rebellion" in Trenton, New Jersey, in 1861; the "American Stereopticon" presented by Mr. H. Watkins in New York and Philadelphia and "The Great English Stereopticon" presented at Barnum's Museum in New York in 1863; stereopticon lectures on Cuba by Constant and René Guillou in Philadelphia and Major Monroe's stereopticon lectures on the Civil War in Hartford in 1864; Jones and Johnson's "Union Gallery" stereopticon exhibition in Erie, Pennsylvania and stereopticon views of Charleston and the surrender of Fort Sumter by W. E. James at the Brooklyn Atheneum in 1865; and even Henry Ward Beecher using a stereopticon for Sunday school lectures at his Plymouth Church in 1865.[20]

FOR THE BENEFIT OF THE GREAT CENTRAL FAIR.

Under the auspices of the Committee on Importations, CONSTANT GUILLOU will, on WEDNESDAY EVENING, June 1, 1864, repeat the Lecture (so favorably received on its first delivery) on the

ISLAND OF CUBA,

her customs, capital, peculiar soil, &c., at the Hall of the University of Pennsylvania, NINTH street, above Chestnut.

The illustraiions are from Photographic Views, taken on the spot, and exhibited through the unrivalled medium of the

STEREOPTICON,

operated by René Guillou.

TICKETS.....50 CENTS EACH.

May be secured on application to

Mrs. J. F. FRAZER,
Chairman of Ladies' Committee,
1517 Walnut street.

RENE GUILLOU,
Chairman of Gentlemen's Committee,
16 Bank street.

CONSTANT GUILLOU,
615 Walnut street.

McALLISTER BROTHERS,
723 Chestnut street.

my28-4t

By the mid-1860s, stereopticon shows by many different operators were proliferating in the Northeast. *Philadelphia Press*, May 31, 1864.

**Defining the Stereopticon**

What exactly is the origin of the name "stereopticon"? The Langenheim brothers and others used one side of a glass stereoscope slide to project the image on a screen with a magic lantern. A passage from an 1863 article makes this origin of the term explicit: "The stereopticon, as it is called, takes the ordinary glass stereoscopic view, and by fine lenses and the most intense artificial lights, throws and magnifies the miniature view upon a canvass, to such an extent that every one in a building as vast as the Academy of Music can see with distinctness each scene. There is no straining of the vision; there is no wearying of the eye as in the stereoscope, but one merely sits and gazes upon the sublime scenery of the Alps, the renowned old abbeys, the busy streets of London, Paris, Naples, and Grand Cairo…." A later pamphlet stated that for use in the stereopticon, "any stereoscopic picture on glass will answer, provided the ground or milky glass be removed from the back of the picture."[21]

Some authors have stated that the Langenheims and other manufacturers cut glass stereo slides in half and sold the half slides for use in magic lanterns, and some slides probably were made in this way.[22] Cutting a glass stereo slide in half to produce two usable lantern slides would be tricky if the pictures are abutted (see example below), but less so if there were some separation between the two sides. A simple alternative would have been to insert either the right or left side of a glass stereo slide into a magic lantern for projection. Indeed, Langenheim's 1861 catalog offered glass stereo slides that could be used *either* in a magic lantern or a stereoscope: "The following are Stereoscopic Views from nature, upon glass, transparent and not colored, expressly taken and prepared to produce a brilliant effect upon the screen, when magnified by the lantern. Of the great variety of Stereoscopic Pictures, the following have been selected as among the most interesting and suitable ones, and constitute what has been called the 'STEREOPTICON' Exhibition..... As these pictures are real Stereoscopic Pictures, they can be used also for the Stereoscope, answering in this manner a double purpose, and form a pleasing and cheap variety to any exhibition."[23] The fact that stereoscopic slides were available in the early 1860s for projection would seem to justify the frequent claims of early stereopticon exhibitors that they were showing "real" stereoscopic views.

Glass stereoscopic slide of Paris, of the type sometimes used by early stereopticon exhibitors for projecting images on a screen. Wells collection.

Beyond that, early stereopticon exhibitors also made a conscious attempt to exploit the growing popularity of the stereoscope, which became readily available in the 1850s, often claiming that the stereopticon produced a truly stereoscopic projected image, which it did not. For example, an 1863 article on "Mr. Fallon's Stereopticon" in *The New York Observer and Chronicle* specifically compared the stereoscope and the stereopticon: "We have had the stereoscope and have been enjoying it for years. If you have not, by all

means send to Anthony's and get one, with a set of views. With these you may delight yourself and friends at all hours, and an unfailing source of entertainment and instruction will be opened. But if you are ever within reach of the Stereopticon go and see, and consider this advice as a command. On a canvas thirty or forty feet square, the most splendid stereoscopic views are projected, presenting many of the objects as large as life, and all of them with a truthfulness to nature and art startling and beautiful to behold. Scenes from our own and foreign lands, temples, palaces, statuary, gardens, landscapes, mountains, glaciers, bridges, men and women, cities, cataracts and castles, stand out in solid, majestic, glorious forms, to the eye of the soul as real, and to the eye of sense as perfect as the several originals. You need not cross the ocean to get a vivid, permanent and complete idea of any prominent historic scene, but go to Irving Hall and find it there."[24]

The notion that the stereopticon produced a true stereoscopic effect was pervasive throughout the 1860s. An article published in *The New York Times* stated that Fallon's Stereopticon "magnifies to the diameter of 24 feet the ordinary objects of the stereoscope," and added that "sculpture is reproduced with a roundness and truth that equals the original."[25] An advertisement in the *Brooklyn Daily Eagle* for May 9, 1863, referred to "Fallon's Great Work of Art, The Stereopticon, or Wall Photographer" and described the views as being "on the same principle as the ordinary hand instrument...thrown upon a large canvas forty feet square, and immensely enlarged, standing out with the same perspective that is seen in nature."[26]

As late as 1869, a pamphlet published by W. Mitchell McAllister of Philadelphia explicitly compared these projected images with those of the stereoscope: "Your attention is respectfully called to the advantages of the STEREOPTICON and MAGIC LANTERN, as a means of instruction to the young.... Its advantages are manifold, presenting to the eye correct forms, true proportions, and exact coloring, which can not be presented in any other way—producing Photographic Pictures greatly magnified, upon a wall or screen, with Stereoscopic effect. Any one who has seen an exhibition of this apparatus, must have been struck with the wonderful relief given to a landscape view or a piece of statuary, magnified fifteen or thirty feet high, having almost as perfect a Stereoscopic effect as in produced by the Stereoscope itself." This pamphlet differs from earlier articles, however, in providing an explanation for the illusion of a stereoscopic effect: "The cause of this Stereoscopic effect is due: first, to the scenes and pictures being photographed from nature and solid objects, thereby being strictly correct representations both as regards light and shade, and true perspective; second, to the great intensity of the light, by which the darkest portions of the pictures are properly illuminated; and third, to the superior quality of the lenses with which the instrument is furnished."[27] A similar explanation had been given several years earlier, when the stereopticon first appeared, by Professor Edwin Emerson of Troy University: "During the last year or two large assemblages have been drawn together in our principal cities, to see with delight the effects produced by what is called *the Stereopticon*, which is merely another name for a Magic-lantern, with *one* side of a glass stereograph for a slide. Nearly all in these large assemblages have agreed in believing that they saw, what they were told they saw, excellent stereographic effect in the single picture which alone is exhibited. The truth is they made the popular mistake; they saw nothing but perspective."[28]

These passages make clear that the key features of the first stereopticons were the use of an intense light source, usually limelight; improvement in the optical quality of the lenses; and the use of the lantern mainly to project photographic slides, which viewers considered much more realistic than painted lantern slides, despite the fact that many of these slides were in black and white. Many early accounts of stereopticon exhibitions mention photographs of sculpture as a favorite subject, something that almost never appeared in hand-painted lantern slides. Much of the appeal of such slides was the degree of realism achieved when an image of sculpture, surrounded by a black background, was projected on a screen in a darkened room: "Nothing seems so dream-like as the Apollo Belvidere, the Venus de Medici, and the *chefs d'oeuvre* of the great Thorwaldsen, which appear upon the scene in all their roundness and beauty."[29]

Lantern slide of Thorwaldsen's *Morning*, a popular subject in early stereopticon shows. The brightly lit sculpture against a black background produced an illusion of a stereoscopic effect on the screen. Wells collection.

Many early exhibitors of the stereopticon went to great lengths in their ads and announcements to tout the unique features of this new attraction, and sometimes specifically stated that it was "not a magic lantern." Nevertheless, many observers soon realized that in fact the stereopticon was simply an improved version of the magic lantern. For example, for years before the first announcements of the stereopticon appeared, Dr. Thomas Kirkbride, Director of the Pennsylvania Hospital for the Insane, had been entertaining his patients with photographic slides provided to him by the Langenheim brothers.[30] In the annual report of his hospital, he debunked the claimed novelty of the stereopticon: "It is interesting to know that everything under the name of stereopticon, &c., that is now shown to the intelligent audiences which fill some of the largest lecture-rooms in our cities, and which has been so generally commended, was familiar to the patients of this hospital some years before these public exhibitions were commenced."[31]

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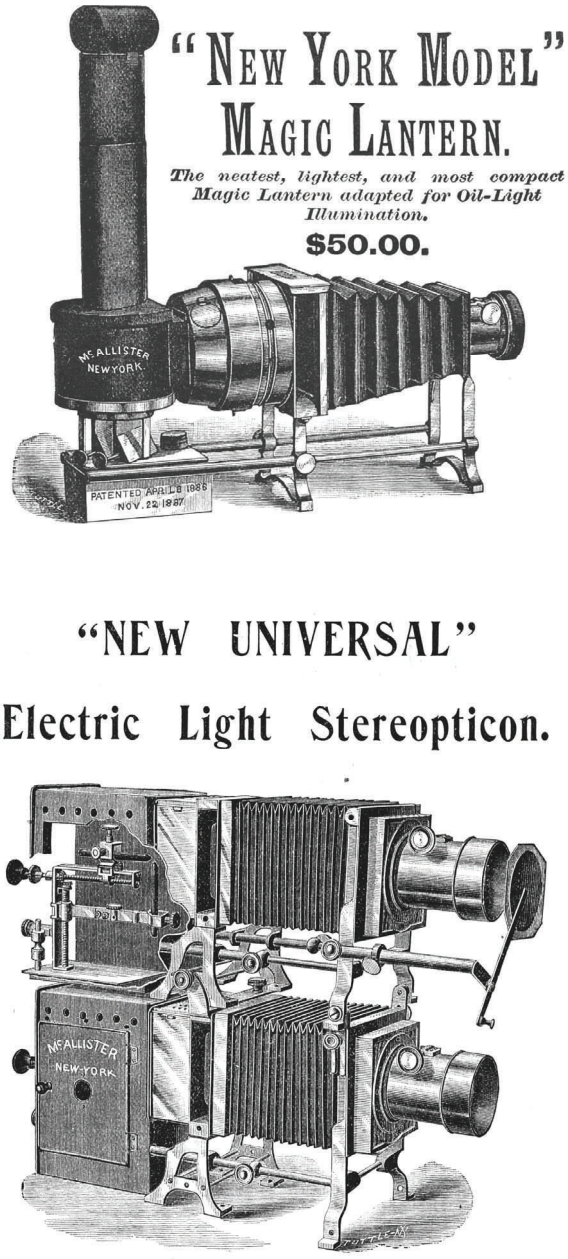
Dr. Thomas Kirkbride, Superintendent of the Pennsylvania Hospital for the Insane, who used photographic lantern slides supplied by the Langenheim brothers years before the appearance of "The Stereopticon."

Once the initial novelty of "The Stereopticon" wore off, the term quickly fell into more generic use as a name for a great variety of models of improved magic lanterns. As the term "stereopticon" became commonplace, the capitalization of the word generally faded away in periodical articles. The term was widely used both for single projectors and for double or triple projectors used to show dissolving views. Although it appears that Fallon's original Stereopticon was capable of producing dissolving effects, most of the early publicity for the Stereopticon did not emphasize dissolving effects, focusing instead on the realism of photographic slides. Indeed, some broadsides and newspaper notices specifically distinguished The Stereopticon from "old-fashioned" dissolving views. Such dissolving views would have been familiar to almost everyone, and there are scores of references to dissolving views in American newspapers and magazines from the 1840s onward. Yet when I searched for the terms "stereopticon" and "dissolving views" together in the *American Periodicals Series*, I found only one co-occurrence of these terms in the 1860s, and only a half dozen instances of the terms appearing together from 1879 through 1907. There was only a single example of these terms appearing together in the *Hartford Daily Courant*, and that was in 1876, and only about four co-occurrences in *The New York Times* between 1885 and 1908.[32] In other words, while some stereopticons were double lanterns that could be used for dissolving views, this was not an essential feature of all stereopticons.

To add to the confusion over terminology, different manufacturers provided very specific, and often contradictory, definitions of the term "stereopticon." For example, L. J. Marcy, who introduced the new term "sciopticon" based on a new system of illumination, also defined the word "stereopticon" by the type of illumination. In his *Sciopticon Manual*, Marcy wrote: "A lantern with a calcium light of either kind is commonly called a *Stereopticon*."[33] This definition was adopted in many other books, including science textbooks for children. For example, Worthington Hooker's definition is essentially the same as Marcy's: "In a more modern form of [the magic lantern], to which the name stereopticon as been given, an oxyhydrogen light is substituted for the common lamp."[34]

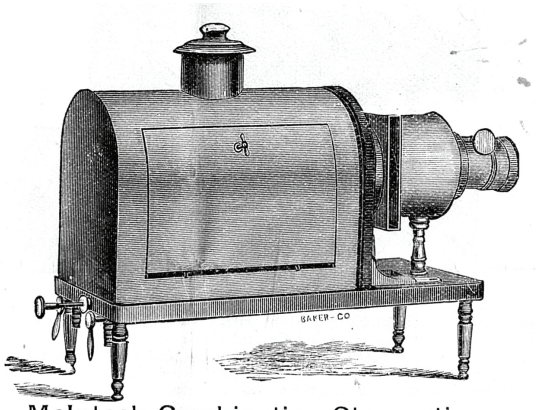
T. H. McAllister used a rather complicated classification of lanterns in his catalogs. Oil-illuminated lanterns generally were called "magic lanterns," although these same lanterns also could be fitted for oxy-hydrogen illumination. He defined a "dissolving apparatus" as "two Oil-light Magic Lanterns...so placed that the views were projected from both shall cover exactly the same disc on the screen." McAllister reserved the term "stereopticon" for dissolving view lanterns with any sort of bright light source, such as limelight or electricity, and these could be double or triple lanterns. In his 1901 catalog, McAllister wrote: "The term 'Stereopticon' is employed to designate a combination of Magic Lanterns for the exhibition of Dissolving Views in greater perfection than is possible from oil-light illumination; and this is effected by

employing either Electric Arc Light, or the Oxy-Hydrogen Light as a source of illumination, in conjunction with lenses of fine quality and of appropriate range of focus."[35]

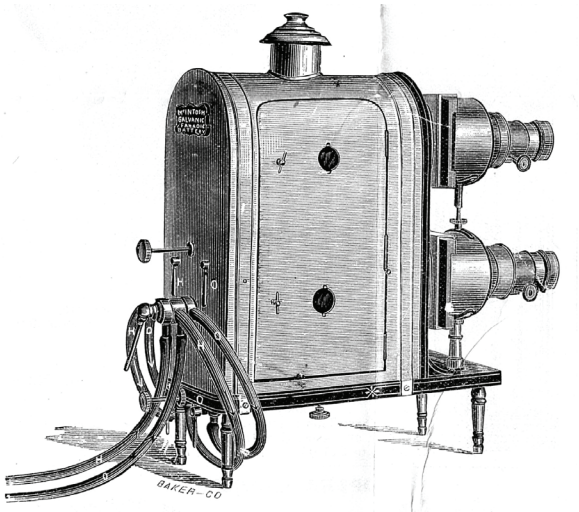



Two models of lantern from T. H. McAllister's 1901 catalog. McAllister used the term "magic lantern" to describe instruments with oil burners. Two of these lanterns placed side-by-side constituted a "dissolving apparatus." The term "stereopticon" was reserved for dissolving lanterns with bright illumination, either limelight or electricity. Wells collection.

In contrast to McAllister, the McIntosh Company used the term "stereopticon" for a wide variety of high quality lanterns, both single and double, with a variety of illuminants as well. In other words, McIntosh stereopticons were neither defined by the form of illumination, nor by their use for dissolving views, but simply by their high quality compared to ordinary magic lanterns.[36] Some dictionaries, encyclopedias, science textbooks, and other books published in the late 19th and early 20th centuries defined the stereopticon as a double or triple lantern used for dissolving views, but these are in the minority. In fact there was not a single correct definition of this term in the 19th century.[37] Most of the references in the periodical literature that I analyzed do not specifically mention dissolving views, and it usually is impossible to determine exactly what sort of lantern is being described.




McIntosh Combination Stereopticon.

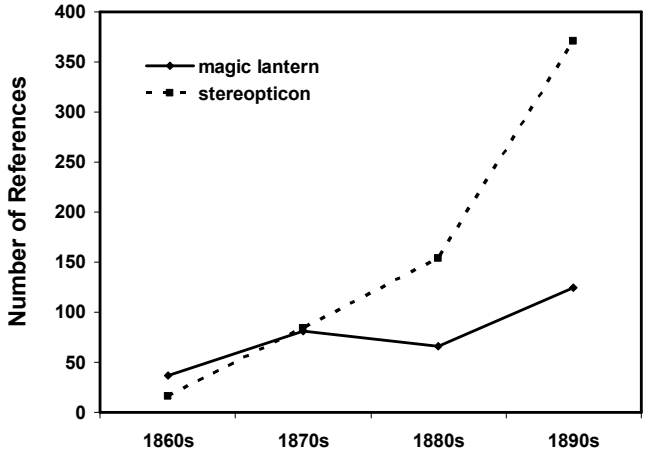



McIntosh Biunial Stereopticon.

Two models of stereopticons, one single and one double, from the 1889 McIntosh catalog. This manufacturer sold a wide variety of models called "stereopticons" with different types of illumination and different numbers of lenses.

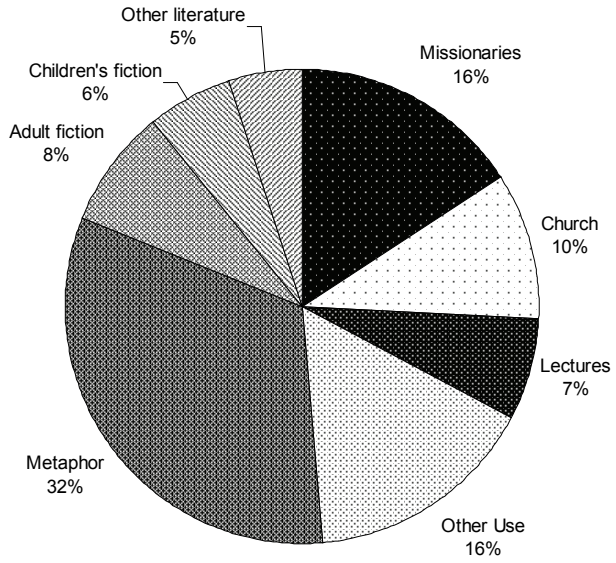
**Changing Uses of "Magic Lantern" and "Stereopticon"**

Now let's turn to my quantitative analysis of the use of the terms "magic lantern" and "stereopticon" from 1860 through 1900. My search turned up a total of 317 significant references to the term "magic lantern" and 625 references to the term "stereopticon" in the *American Periodicals Series* database. The use of the term "stereopticon" was roughly equal to the use of "magic lantern" in the 1870s, but became more common by the 1880s. By the 1890s, the term "stereopticon" was the dominant term used in the periodical literature. The use of both terms increased though the decades, although the use of "stereopticon" increased at a faster rate. This increase probably reflects not only greater public use of lanterns in the later decades, but also the fact that there were many more periodicals being published in the 1890s than in earlier decades.




Number of references to the words "magic lantern" and "stereopticon" in the *American Periodicals Series*, 1860-1900. The year 1900 is combined with the 1890s.

**Uses of the Term "Magic Lantern"**—One striking pattern that I found was the variety of ways in which these two terms were used, and some very dramatic differences in the contexts in which the two terms were used in periodicals. References to the term "magic lantern" from 1860 to 1900 fall into two main categories: accounts of practical uses of the magic lantern and literary references to the term. Slightly more than half of all references to the term "magic lantern" are literary. I divided practical uses of the magic lantern into four categories: (1) use by missionaries, (2) use in churches, (3) use for non-religious lectures, and (4) various other uses, such as advertising on the sides of buildings, projecting election returns, etc. The missionary category is a very large one, followed by use in churches, with the use of the term for lectures being a relatively small component of the total. Literary uses also were divided into four categories: (1) references to the use of a magic lantern in adult fiction, (2) references to the use of a magic lantern in children's fiction, (3) the use of the term in other literature, such as poems, book reviews, and essays, and (4) metaphorical uses of the term. What I found very surprising is that the use of the magic lantern as a metaphor was by far the largest category, and constituted fully one-third of all references to the term "magic lantern" over the four decades of the study.




Uses of the term "magic lantern' in American periodicals, 1860-1900.

**The Metaphorical Magic Lantern**—Technically speaking, metaphorical use of the term "magic lantern" could either be a true metaphor, in a phrase such as "the magic lantern of the imagination," or a simile, in a phrase such as "his style of writing is like slides in a magic lantern." For convenience, I have combined these and call them all metaphors. The number of concepts or objects that were compared to magic lanterns is truly amazing. A detailed discussion of the metaphorical use of the term "magic lantern" would require a separate article, so I will mention only a few examples here.

Among the most frequent magic lantern metaphors were references to mental processes, such as the mind's eye, imagination, dreams, or reveries. An article on intellectual training in the *American Journal of Education* for 1861 stated that "The imagination is a magic lantern, which transfers intellectual impressions into the realm of the senses, and those of the senses into that of the intellect; which magnifies or diminishes our ideas of things, and flings us into a whirlpool of the possibilities and probabilities and mysteries of the future, from which we can never find our way out without the aid of understanding."[38] An article on "The Border-

Land of Dreams" in *Harper's Bazaar* for 1869 described the mental images formed just before the onset of true sleep: "The dream-like figures are like the impossible figures which the magic lantern shows us; the real figures that haunt this transitional state are like real men and women seen through a piece of bottle-glass."[39] The metaphor of the magic lantern also frequently appeared in descriptions of "the passing scene" or changing episodes of history. A book by a German author was summarized in *Lippincott's Magazine* as follows: "He has discussed with great ingenuity and profound research, the shadowy history of many men and women, whose whole existence, as far as it came to light, was an enigma, and who pass before our eyes like the figures of a magic-lantern or phantasmagoric show."[40] Many writers referred to the frequent changes of governments and constitutions in post-Revolutionary France in terms evoking the ephemeral nature of magic lantern slides: "France made five such immortal constitutions in about ten years. They chased each other across the field of vision like pictures in a magic lantern."[41]

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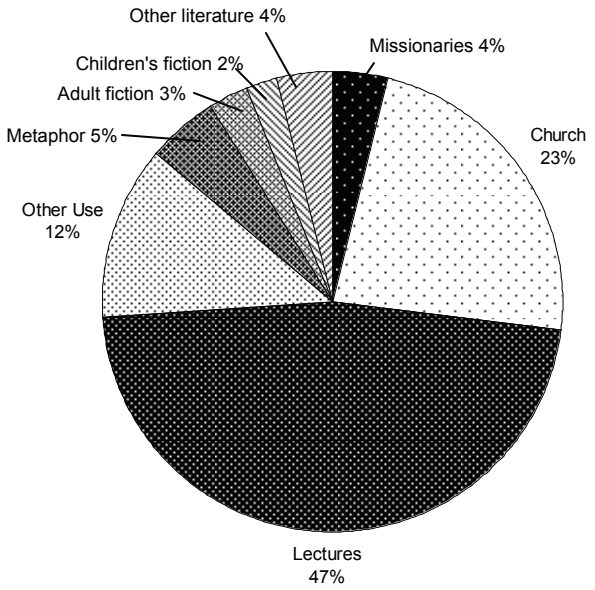
Reviews of the books of contemporary writers often invoked magic lantern metaphors to describe the writing styles of various authors. The exact comparison with the magic lantern varied, however, and could be used to indicate insubstantial development of characters; a superficial style of writing that leaves few lasting impressions; or a literary piece consisting of a series of disconnected scenes, each of which is interesting, but which quickly fades from memory. For example, here we have an anonymous review of the collected works of Nathaniel Hawthorne: "His characters are essentially phantasmagoria, and he looks upon them as such, and develops them as such; nay, more, he transforms to suit his mood even the real people he puts into his magic lantern, so that the instrument shows you only their shadows, definitely outlined, it is true, but thin and insubstantial."[42] Thomas Carlyle's massive work on the history of the French Revolution frequently came in for similar criticism: "His French Revolution, though the fruit of exhaustive research, is not a formal history, but a series of magic-lantern views, colored and distorted by this same evolving faculty. The Parisian tumults are not as they really happened, but as they passed across the lens of Carlyle's brain."[43]

Some of the metaphorical references to magic lanterns are quite unusual. A review of a book on Arctic travels by Edward Roe included the following description of the mosquitoes encountered in the Far North: "We are becoming connoisseurs in mosquitoes; we watch them traverse our veils like figure on slides in a magic lantern."[44] A story entitled "The Giants of the Plain" by Alfred M. Williams described images in a lightning storm on the walls of a tent: "At night the storms would break upon us, straining the pegs and the canvas and illuminating the walls of the tent like flashes from a magic-lantern, again to pass away, leaving the moon and stars to shine in an untroubled sky."[45] A short piece entitled "The Magic Lantern City" invoked the magic lantern to describe the seasonal appearance and disappearance of ice-fishing houses on a frozen lake: "There is a city in Michigan that appears and disappears every year like the picture of a magic lantern. In February, it has about twenty-five hundred inhabitants, and on the first of May, every vestige of the city is gone. When Saginaw Bay freezes solid, then the fishermen come with their families to fish through the ice.... They fish until it begins to thaw in April, and then the houses are taken down, and that is the end of the city for the season."[46]

Perhaps my favorite example of a truly over-the-top magic lantern metaphor describes the thought process of Prince Bismarck in rather unflattering terms: "Prince Bismarck is a man whose mind, and all that is therein, is continually projected like the picture on the slide of a magic-lantern on an immense expanse of blank sheets visible all over Germany. As a combination of the microscope and the magic-lantern enables the operator to horrify a crowd of spectators by the ghastly presentation on the outstretched sheet of the animalculae writhing and wriggling in every drop of drinking water, so the officious and official Press of Germany help us to see the germs and spores of unclean things which lurk or are supposed to lurk in the lower regions of Prince Bismarck's mind. The reptile press is the Chancellor's magic-lantern, of which the successive phases of his thought serve as the slides and are exaggerated by the lens."[47]

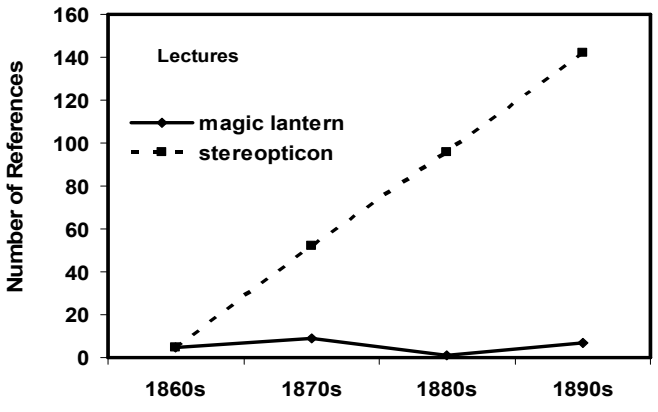
**Uses of the Term "Stereopticon"**—If we compare the ways in which the term "stereopticon" was used in the periodical literature with uses of the term "magic lantern," we find a very different pattern. Literary references comprise only 14% of the total, with metaphorical references to the stereopticon being a mere 5%.



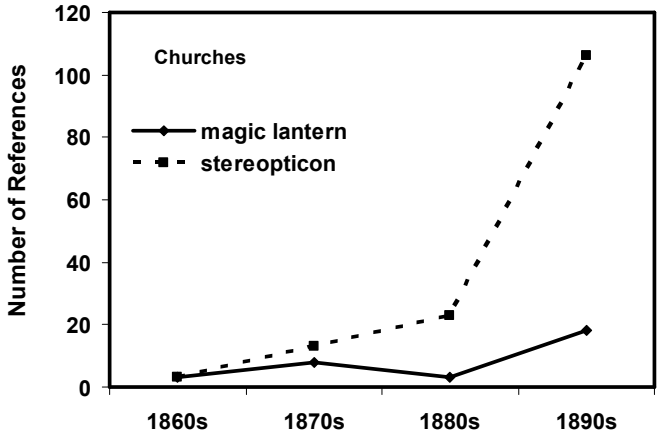

Uses of the term "stereopticon" in American periodicals, 1860-1900.

Clearly there is not much poetry in the word "stereopticon." Most literary references to the word appear in adult and juvenile fiction in which the use of a stereopticon is described. Metaphorical references to the stereopticon are of the same nature as references to the magic lantern, but are much less numerous. Usually the word is used to describe a passing scene, styles of writing, the imagination, or dreams. Practical uses dominate the periodical literature, with references to lectures being nearly half of the total, and use in churches being another large component. These two categories actually blend into one another, because many non-religious lectures, such as travel lectures, were given in churches. I have reserved the church category for cases in which the stereopticon was used in services, Sunday schools, or for showing obviously religious subjects. Together, these two categories account for 70% of the 625 references to the term "stereopticon" in American periodicals.

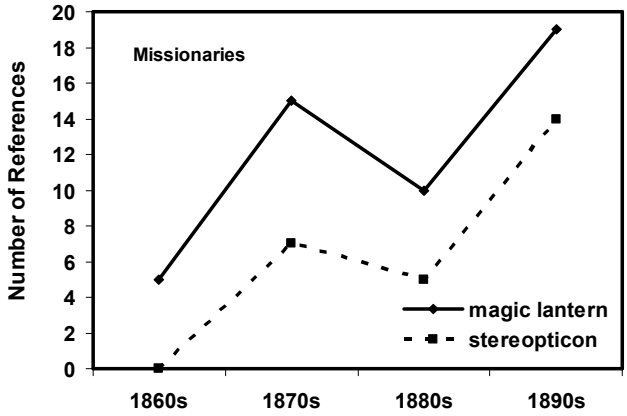
If we look at the three major categories of practical use (lectures, churches, and missionaries), some additional interesting patterns emerge. First, once the term "stereopticon" appeared, it very rapidly came to dominate discussions of public lectures. The use of the term in church announcements took a bit longer to catch on, but by the 1890s, the term "stereopticon" clearly predominated in references to church use. In contrast, the use of the term "magic lantern" persisted in the missionary literature throughout the century. Although the numbers are much smaller for this category, the use of the term "stereopticon" by missionaries never surpassed the use of the term "magic lantern." Presumably missionaries did not have access to top-of-the-line stereopticons using limelight or electricity in remote regions such as India, China, and Africa. Most likely, they would have employed a high-quality oil-fired lantern, such as Marcy's sciopticon, and continued to refer to these as magic lanterns until the end of the century and even beyond.[48]




Number of instances of the terms "magic lantern" and "stereopticon" used to describe lectures in American periodicals, 1860-1900.



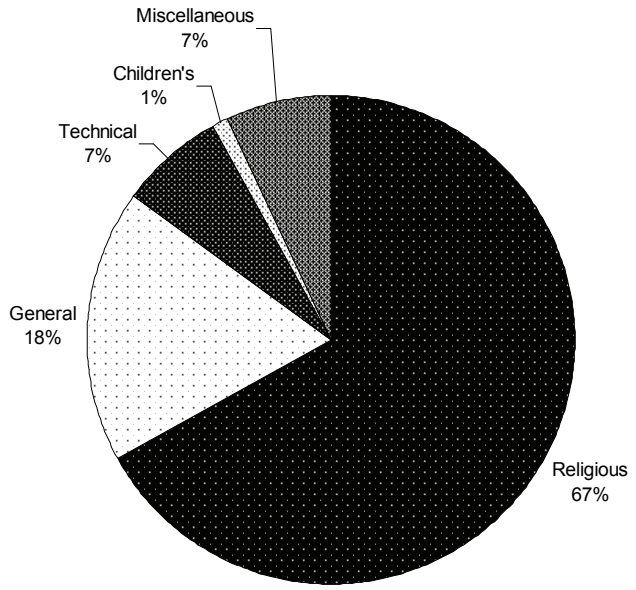

Number of instances of the terms "magic lantern" and "stereopticon" used to describe presentations in churches in American periodicals, 1860-1900.




Number of instances of the terms "magic lantern" and "stereopticon" used to describe use of lanterns by missionaries in American periodicals, 1860-1900.

One rather surprising result of this analysis is the make-up of the periodicals in which the term "stereopticon" appeared. Of all the hundreds of periodicals represented in the online database, two-thirds of the references to the word "stereopticon" appear in religious periodicals, with many fewer in general or technical magazines and hardly any in children's magazines. This probably reflects the dominance of the term stereopticon in references to lantern shows in churches, either for religious or non-religious lectures.
*Zion's Herald*, a Methodist publication, had far more references to this word than any other magazine in the database, religious or non-religious. A number of Protestant denominations are represented on the list, but I did not find a single reference to the word "stereopticon" in a Catholic

periodical. I have found occasional references to the use of magic lanterns or stereopticons in Catholic churches in newspaper announcements, however, although far fewer than references to use in Protestant churches. Magic lantern manufacturers, such as T. H. McAllister and J. B. Colt took full advantage of the demand for lanterns and stereopticons in churches and placed advertisements for their products in many different church periodicals throughout the late 19th century.




Distribution of types of periodicals in which the word "stereopticon" was mentioned, 1860-1900.

**References to "Stereopticon" in Religious Periodicals**

| | |
|---|---|
| *Zion's Herald* (Methodist) 1869-1900 | 102 |
| *New York Evangelist* (Presbyterian) 1863-1900 | 69 |
| *Congregationalist* (Congregationalist) 1891-1900 | 47 |
| *Christian Advocate* (Methodist Episcopal) 1872-1900 | 36 |
| *N.Y. Observer & Chronicle* (Presbyterian) 1863-1900 | 28 |
| *The Watchman* (Baptist) (1895-1900) | 26 |
| *Christian Union* (non-denominational) 1878-1891 | 17 |
| *Christian Observer* (Presbyterian) 1897-1900 | 9 |
| *Friends' Intelligencer* (Quaker) 1869-1900 | 7 |
| *Western Christian Advocate* (Methodist) 1880-1883 | 6 |

**Some Names That Did Not Catch On**

Both the terms "magic lantern" and "stereopticon" were widely used throughout the last part of the 19th century, but several other terms used to describe magic lanterns did not catch on in the popular periodical literature. Here I have ignored obvious spelling and typographical errors, such as "stereoptican" and refer only to terms that were used to describe distinct types of instruments.

**Stereoscopticon**—The term "stereoscopticon," a variant spelling of "stereopticon," made a brief appearance in the 1860s and then largely disappeared, perhaps because it was a more awkward-sounding name. Oliver Wendell Holmes used the term in his famous article on photography, "The Doings of the Sunbeam," published in the *Atlantic Monthly* in 1863.[49] The term "stereoscopticon" is seldom mentioned in the publications included in the *American Periodicals Series*, except for occasional references in the *New York Observer and Chronicle* and a short fictional piece entitled "The Stereoscopticon, or Natural Science in Brambleville," published in *The Flag of Our Union* in 1866.[50] The term does appear in numerous newspaper ads and announcements in the early 1860s, including announcements for programs at P. T. Barnum's museum in New York and other shows in New Haven and Hartford, Connecticut. The term also made its way westward, with announcements for stereoscopticon shows appearing in papers in Albany, New York; Columbus, Ohio; St. Paul, Minnesota; Boise, Idaho; and San Francisco, from 1866 to 1872.[51] The term even appeared in the *Daily Constitutionalist* of Augusta, Georgia, during the Civil War, in announcements for "Lee Mallory's War Illustrations," featuring portraits of "Confederate Generals and Statesmen" displayed with "the Mammoth Stereoscopticon, or Great Mirror of Life!"[52]

The term also showed up in the reports of a number of insane asylums, including those in New York, Massachusetts, Wisconsin, and Michigan. This may have reflected the influence of James Queen, a Philadelphia lantern manufacturer, who probably supplied the lantern used by Dr. Kirkbride in Philadelphia and also is mentioned as the supplier for an asylum in Michigan.[53] He was using the term "stereoscopticon" in an 1869 catalog for a double-lens dissolving apparatus.[54] Another Philadelphia manufacturer, William Langenheim, who provided slides to Dr. Kirkbride, also was advertising "Improved Lanterns and Stereoscopticon Apparatus" in 1866.[55] In an article published in 1878, the *British Journal of Photography* reported, "The word 'stereopticon' is derived from the Greek *stereos*, firm, and *optikos*, having reference to sight.... It means to see solid, and from its resemblance to the stereoscope has been sometimes tortured into that ungraceful word 'stereoscopticon.'"[56] The *San Francisco Bulletin*, on the other hand, found the word more appealing. In 1872, after the word had largely disappeared from common use, the paper wrote, "Stereoscopticon is a good word. We don't know what it means, but it sounds well."[57]

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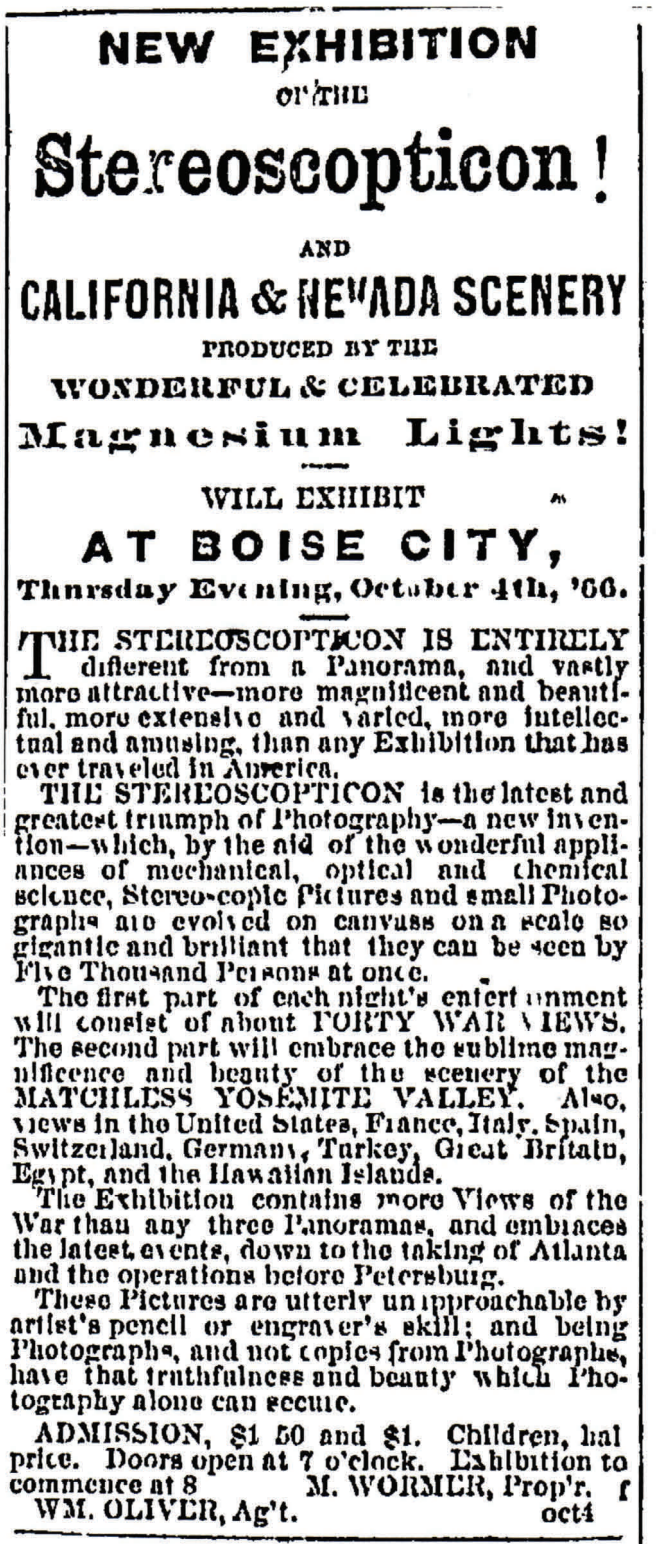


NEW EXHIBITION
OF THE
Stereoscopticon!
AND
CALIFORNIA & NEVADA SCENERY
PRODUCED BY THE
WONDERFUL & CELEBRATED
Magnesium Lights!
WILL EXHIBIT
AT BOISE CITY,
Thursday Evening, October 4th, '66.

THE STEREOSCOPTICON IS ENTIRELY different from a Panorama, and vastly more attractive—more magnificent and beautiful, more extensive and varied, more intellectual and amusing, than any Exhibition that has ever traveled in America.

THE STEREOSCOPTICON is the latest and greatest triumph of Photography—a new invention—which, by the aid of the wonderful appliances of mechanical, optical and chemical science, Stereoscopic Pictures and small Photographs are evolved on canvass on a scale so gigantic and brilliant that they can be seen by Five Thousand Persons at once.

The first part of each night's entertainment will consist of about FORTY WAR VIEWS. The second part will embrace the sublime magnificence and beauty of the scenery of the MATCHLESS YOSEMITE VALLEY. Also, views in the United States, France, Italy, Spain, Switzerland, Germany, Turkey, Great Britain, Egypt, and the Hawaiian Islands.

The Exhibition contains more Views of the War than any three Panoramas, and embraces the latest events, down to the taking of Atlanta and the operations before Petersburg.

These Pictures are utterly unapproachable by artist's pencil or engraver's skill; and being Photographs, and not copies from Photographs, have that truthfulness and beauty which Photography alone can secure.

ADMISSION, $1 50 and $1. Children, half price. Doors open at 7 o'clock. Exhibition to commence at 8 M. WORMER, Prop'r.
WM. OLIVER, Ag't. oct4

Advertisement for a Stereoscopticon exhibition, *Idaho Statesman*, October 4, 1866.

**Stereophan**—When John Fallon first protested against the imitators of his Stereopticon who were giving exhibitions in the Northeast, he specifically mentioned that some of these scoundrels were using the term "Stereophan" in their advertising. Indeed, this term was used briefly during the 1860s by several operators giving shows mostly in Massachusetts and Maine. A broadside in the collection of the American Antiquarian Society, with the date May 13, 1862 written in pencil, advertises "The Splendors of the Stereophan" and "Gigantic Stereoscopic Views" in a show at the Boston Aquarial and Zoological Gardens.[58] A man named Joseph H. Ely was exhibiting the Stereophan in Lowell, Massachusetts, in 1863.[59] For a period in 1863 and 1864, Ely's Stereophan was turned over to Ephraim Brown, who worked for a local insurance company. Brown exhibited the instrument from at least March 1863 through January 1864 in Lowell, Dorchester, and Worcester.[60] By 1867, the Stereophan apparently was back in the hands of Mr. Ely, and ads for his exhibitions appeared in the *Lowell Daily Citizen and News*.[61] Other announcements for Stereophan exhibitions appeared in newspapers in Portland, Maine, in 1863, and in Lowell in 1866, possibly with different operators.[62] A final announcement for a lecture by Dr. Cook using a Stereophan appeared in the Lowell paper in 1868.[63] After that, I have found no further mention of this term, and it does not appear in any of the publications in the *American Periodicals Series*.

**Stereorama**—In 1860, Ralph Waldo Emerson attended a showing of photographic slides at the Concord Lyceum, and he recorded the event in his journal: "Yesterday eve I attended at the Lyceum in the Town Hall the Exhibition of Stereoscopic Views magnified on the wall, which seems to me the last and most important application of this wonderful art: for here was London, Paris, Switzerland, Spain &, at last, Egypt, brought visibly and accurately to Concord, for authentic examination by women and children, who had never left their state. Cornelius Agrippa was fairly outdone. And the lovely manner in which on picture was changed for another beat the faculty of dreaming. Edward thought that 'the thanks of the town should be presented to Mr. Monroe, for carrying us to Europe, & bringing us home, without expense.'" The records of the Concord Lyceum for that evening reported that "an exhibition of the *stereorama* was given before the Lyceum this evening, embracing views of scenery and celebrated buildings in the country and Europe. The exhibition was repeated on Thursday evening (15th), and again, on Friday evening, the last exhibition being given to the children."[64]

The use of the term "stereorama" in this context is a curious one, because this word had been used to describe several other types of visual entertainments and was not commonly used to describe the projection of photographs on a screen. As early as 1832, the word "stereorama" had been defined as a type of panorama, but with a three-dimensional component: "The stereorama...or panstereorama, is a miniature representation, in relief, of towns and other objects, constructed of cork, paste-

Grand Exhibition!

THE

STEREOPHAN!

The great Art Wonder of the age, prepared for the proprietor in Europe, and imported at great expense.

The World Photographed,

and exhibited to large audiences at once and pronounced Artistic! Instructive! and Entertaining.

In response to a general request,

Mr. Joseph H. Ely,

Assisted by gentlemen of skill and experience, will give two exhibitions with this celebrated instrument in

MECHANICS' HALL,

WEDNESDAY & THURSDAY EVENINGS, APRIL 10th and 11th,

When will be presented

STEREOGRAPHS TAKEN UPON THE SPOT!

Comprising objects of interest in Europe and America: Rivers, Seas, Landscapes, Mountains, Cities, Monuments, Battle fields, Works of Art, Public Buildings, Architectural Ruins and Statuary,

Intensely Illuminated and Magnified,

Together constituting a Gallery of

SUN PAINTING AND SUN SCULPTURE,

More charming and varied than the Art Museums of Munich or Dresden—a succession of gigantic & magnificent Tableaux, sketched The Magic Pencil of Instantaneous Light.

Terms of Admission 30 cents. Tickets for sale at the usual places, and at the door. For particulars see small bills. aprddit

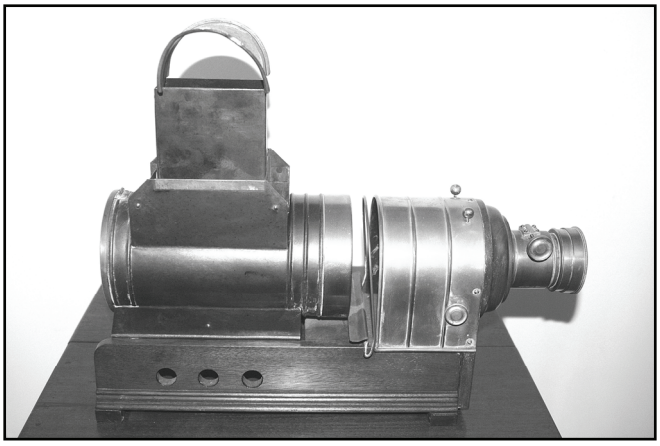
Advertisement for Ely's Stereophan exhibition, *Lowell Daily Citizen*, April 8, 1867.

board, and other light and flexibile substances."[65] Indeed, just such a Stereorama was constructed in Cremorne Gardens in London in 1860, consisting of a three-dimensional display of the Swiss Alps.[66] A later version was one of several "-orama" attractions at the Paris Exhibition of 1900.[67] To further complicate matters, the term "stereorama" also was applied in the 1860s to a small stereoscopic box: "At a recent meeting of the Photographic Society of France, M. Mauvillin exhibited to pieces of apparatus—one called a "stereorama," consisting of a stereoscopic box smaller than the ordinary stereoscope, in which, by means of a button movement, a whole series of proofs could be unrolled."[68]

Despite the multiple definitions of the word "stereorama" floating around in the 1860s, the term does show up occasionally in the late 1860s and early 1870s to describe a type of magic lantern used to project images on a wall or screen. In 1865, a report of the proceedings of the Friends' Social Lyceum in Philadelphia stated that, "In the early part of the season, it was concluded to purchase a Stereorama with plates adapted to the illustration of scientific and other lectures, such as Botany, Astronomy, History, &c. On several occasions, this valuable instrument has been exhibited to large audiences, and variety and beauty of the illustrations have added greatly to the interest of the lectures and to the instruction of the auditors." The report added that $450 was required to purchase the "Stereorama and its accompaniments," so it is clear this was no ordinary magic lantern.[69] In 1867, another report of the Friends' Social Lyceum stated that, "The Stereorama purchased one year ago for the illustration of History, Science and Art, has continued, in the hands of its custodian Dr. J. G. Hunt, to furnish entertainments on numerous occasions, which has been greatly enhanced by his appropriate remarks and explanations."[70] This instrument was still being exhibited as late as 1871: "Prominently among these, may be named the relevant exhibitions of the Stereorama by our friend Dr. J. Gibbons Hunt."[71] I turned up one additional reference to another Stereorama being exhibited in nearby Trenton, New Jersey, in 1867: "Professor J. K. Taylor, who will exhibit the Stereorama in Temperance Hall to-night, is principal of a large boarding school in Chester county, Pa. His brother, Principal of the Scientific and Commercial Academy, Wilmington, Del., and himself, have just imported from Paris the apparatus he proposes to show to-night.... As his own reputation and that of his Academy are at stake, we shall expect a treat. Living insects and fishes will be magnified and thrown upon the screen."[72] By the early 1870s, the term "stereorama" apparently disappeared from public discourse, and I have not found any accounts that give a clear description of the apparatus.

**Sciopticon**—The term "sciopticon," was introduced in the 1860s by L. J. Marcy as a name for his improved form of magic lantern. Although Marcy's sciopticon represented a major advance in magic lantern design and was widely sold and used in homes, schools, and churches, the term itself did not catch on in popular periodicals. There are less than a dozen references to this term in all of the periodicals in the database, and some of these are ads for Marcy's lantern; the term almost never appears in newspaper announcements of the period. This is in contrast to the widespread use of the term in England and some European countries, such as

Sweden, where the term "skiopticon" became the generic name for high-quality magic lanterns in the late 19th century and often appeared in literary references to magic lanterns as well.[73]



The Marcy sciopticon, which achieved popularity in homes, schools, and churches, but did not very often find its way into popular periodical writing about the magic lantern. Wells collection.

**Optical Lantern**—It has been suggested that the term "optical lantern" gradually supplanted the term "magic lantern" late in the 19th century, perhaps because it gave the instruments a more sophisticated name.[68] Indeed, *The Art Amateur* for 1886 stated that "The Optical Lantern is the sensible name now given to our old friend the "magic" lantern.[74] The term "optical lantern" was widely used in Britain, but the name really never caught on in the general periodical literature in the United States. There are several dozen references to this term in the periodicals that I surveyed, starting in 1883, but nearly all of these are in technical magazines such as *Scientific American*, *The Art Amateur*, *The American Architect and Building News*, and photographic magazines, or are advertisements for companies like J. B. Colt, which used the term for some models of lanterns. The term also was widely used by *The New York Times* in the 1890s, mostly in reports of meetings of amateur photographic clubs.[75] The term almost never appears in popular or religious periodicals.

**Artopticon**—In the 1870s, W. Mitchell McAllister of Philiadelphia began advertising his "Patented Artopticon," which appears to have been little more than a high-class magic lantern. The New York company of E. & H. T. Anthony also advertised an Artopticon in the 1870s, along with a host of other magic lanterns with specialized names, such as the Micro-Scientific Lantern, Stereo-Panopticon, University Stereopticon, Advertiser's Stereopticon, School Lantern, Family Lantern, and People's Lantern.[76] All of these terms essentially were used to designate model or brand names, and none of them, including "Artopticon," achieved widespread use in the popular literature. In fact, there is only a single reference to "Artopticon" in any periodical in the *American Periodicals Series*—a brief announcement of "An Artopticon Entertainment, by Mrs. J. P. Newman" in a New York Church.[77] The term does not appear at all in Northeastern newspapers such as *The New York Times*, *The Brooklyn Daily Eagle*, and *The Hartford Daily Courant*.

**Conclusions**

The term "magic lantern" has a long history in the culture of the projected image, having originated in the 17th century and continuing to be widely used in popular literature throughout the 19th century and well into the 20th century. The primacy of this term was challenged in the 1860s by the arrival of a new form of entertainment, "The Stereopticon," which was not, according to its exhibitors, a mere magic lantern. In fact, the first stereopticons clearly were improved forms of the magic lantern, with superior lenses and bright illumination provided by limelight. At least some of these early stereopticons were capable of producing dissolving effects, but this was not what made them unique or interesting to the public, because dissolving views had been around for more than 20 years. The key innovation of the stereopticon was the use of photographic slides, either black and white or hand-colored, which produced images so realistic that many viewers were convinced they were looking at three-dimensional pictures on the screen. By the 1870s, this illusion of stereographic projection had largely subsided in public reactions to stereopticon shows, and the term took on a more generic meaning as simply an improved form of magic lantern of a type suitable for public exhibitions. By the 1880s and 1890s, the term "stereopticon" dominated published accounts of public lectures and church exhibitions of lantern slides, and the term became pervasive in the religious periodicals of the day. Because different manufacturers used different criteria to define the term "stereopticon," there has been a good deal of confusion over whether this term refers exclusively to dissolving lanterns with two or more lenses, or to any type of high-class magic lantern with limelight (or later electrical) illumination. In fact, the term was used for both types of lanterns throughout the late 19th century, so there is no single correct definition of the term.

One interesting question that arises from this analysis is this: Did 19th century writers routinely confuse the terms "stereopticon" and "stereoscope"? The answer is that they did not—I found only two instances over the 40 years of my study in which the word "stereopticon" appears in an article, but clearly refers to a stereoscope. Both of these articles are very late—1899 and 1900. Much more common were explicit descriptions of the *differences* between the two instruments, which commonly appeared in magazine articles and in textbooks. This contrasts with the widespread misuse of the term "stereopticon" today to refer to the stereoscope. On any given day, 70-90% of the listings on Ebay under "stereopticon" actually refer to stereoscopes or stereographs. This incorrect use of the term "stereopticon" has spread to the scholarly literature as well.

A couple of years ago, I searched for the term "stereopticon" in the *Project Muse* database, an online collection of scholarly journals in the arts, humanities, and social sciences, including areas such as theater and cinema history. Out of 16 articles referring to the word "stereopticon", 12 used the term to refer to a stereoscope, and only four used it correctly. Although "stereopticon" once was the term most commonly used to describe an instrument for projecting photographs on a screen, collective memory of the meaning of the word faded as the stereopticon was gradually replaced by the modern slide projector.

### Notes and References

1. Studies of the use of words related to magic lanterns include the following: Alan Trachtenberg, Photography: The Emergence of a Keyword, pp. 17-47 in *Photography in Nineteenth-Century America*, Martha A. Sandweiss, ed. (Harry Abrams, New York, 1991); Terry Castle, Phantasmagoria and the Metaphorics of Modern Reverie, pp. 140-167 in *The Female Thermometer* (Oxford University Press, New York, 1995); Vreni Hockenjos, The Sciopticon in Sweden: History and Literary Imagination, pp. 181-197 in *Screen Culture: History and Textuality*, John Fullerton, ed. (John Libbey, Eastleigh, England, 2004).

2. Deac Rossell, *Magic Lantern*, vol. 1 (Füsslin Verlag, Stuttgart, Germany, 2008), p. 22.

3. Rossell, *Magic Lantern*, p. 33.

4. Benjamin Martin, *A New and Compendious System of Optics* (James Hodges, London, 1740), p. 292.

5. Benjamin Martin, *The Young Gentleman and Lady's Philosophy, in a Continued Survey of the Works of Nature and Art by Way of Dialogue* (W. Owen, London, 1772), p. 285.

6. W. T. Brand and Rev. George W. Cox, eds., *A Dictionary of Science, Literature, and Art* (Longmans, Green, & Co., London, 1866), vol. 2, p. 423.

7. The most important published accounts of the early history of the stereopticon are: Charles Musser, *The Emergence of Cinema: The American Screen to 1907* (University of California Press, Berkeley, 1990), pp. 29-38; Erkki Huhtamo, Stereopticon Lantern, pp. 292-293 in *Encyclopedia of the Magic Lantern*, David Robinson, Stephen Herbert, and Richard Crangle, eds. (The Magic Lantern Society, London, 2001).

8. *Philadelphia Inquirer*: Dec. 18, 1860; Feb. 7, 8, 11, 14, 15, 16, 21, 23, Mar. 11, 13, 19, Apr. 4, 11, 22, 25, 1861; *Philadelphia Press*: Feb. 2, 8, 13, 14, 15, 16, Mar. 20, April 8, 11, 1861; *Saturday Evening Post*, Jan. 5, 1861; *Arthur's Home Magazine*, Apr. 1861.

9. There are two broadsides in the collection of the American Antiquarian Society in Worcester, Massachusetts, advertising Abel & Leyland's Stereopticon in Boston for July 16 and 17, 1861. The back of each broadside includes a selection of comments from the Philadelphia press, including a number of newspapers not cited above: *North American*, *Evening Bulletin*, *Presbyterian*, *Evening Argus*, *Dollar Newspaper*, *Sunday Dispatch*, and *Daily Record*. These broadsides are available online through some university libraries in *American Broadsides and Ephemera, Series 1.*

10. *Hartford Daily Courant*: Dec. 16, 18, 22, 24, 27, 1862; Jan. 6, 8, 10, 12, 14, 15, 17, 19, Apr. 24 [reports show in Brooklyn], Oct. 10, 24, 28, 1863; *New York Times*: Apr. 30, June 18, 22, 29, July 13, Aug. 24, Sept. 21, Nov. 14, 1863; *Brooklyn Daily Eagle*: Apr. 8, 10, 13, 14, 15, 24, 27, 29, May 2, 4, 5, 6, 7, 8, 9, 15, 16, 18, 21, 22, 23, Oct. 5, Nov. 17, 1863; *New York Observer and Chronicle*, June 18, July 2, Sept. 24, 1863; *New York Evangelist*, May 7, 1863; *New York Herald*, June 17, 19, 1863.

11. Musser, *Emergence of Cinema*, p. 30; Deac Rossell and Erkki Huhtamo, John Fallon, *Encyclopedia of the Magic Lantern*, p.111.

12. John Fallon, *Six Tours Through Foreign Lands. A Guide to Fallon's Great Work of Art. The World Illustrated. A Complete Mirror of the Universe, from the Earliest Times Down to the Present Day*. American Antiquarian Society pamphlet (PAMS S625 Six 1863).

13. Fallon's pamphlet includes a quotation from the *Taunton Gazette* describing an effect that could be achieved only by using a dissolving lantern: "In nothing is the effect so beautiful as in the presentation of sculpture. Then, as if this were one of the most sacred secrets of Art, there spreads a lovely blue cloud—a cerulean fog, floating and whitening, till slowly out of its dreaminess, gigantic statues have breathed themselves upon you." A quotation from another newspaper in the same pamphlet states: "the result is the production of a new series of instantaneous views of Paris, taken at midday, as a new feature in what may be termed Dissolving View Photography."

14. *Philadelphia Inquirer*: July 22, Aug. 6, 10, 13, 26, 29, Sept. 2, 1861. *Philadelphia Press*: Aug. 24, 29, Sept. 12, 1861. This show later moved to Trenton, New Jersey: *Trenton State Gazette*, Nov. 6, 8, 1861.

15. *Philadelphia Inquirer*, May 25, 1861.

16. *New York Times*, Nov. 14, 1863.

17. *Fallon's Great Work of Art! The Stereopticon.* Broadside in the collection of the American Antiquarian Society, dated 1862 in catalog; available online in *American Broadsides and Ephemera, Series 1.*

18. Langenheim's full 1861 catalog is available online in the Samuel J. May Anti-Slavery Collection on the Cornell University Library webpage.

19. James W. Queen ad for Stereopticon Apparatus, *Philadelphia Press*, Apr. 11, 1861, p. 3; James W. Queen stereoscopticon ad, *Philadelphia Press*, May 26, 1863, p. 3. In 1896, the Queen company credited itself with making the first stereopticon in *Report of the Speeches at the Testimonial Entertainment Given by the Stockholders and Late Creditors of Queen & Co. to John Gordon Gray, Together with a Short History of the Business of Queen & Co., 1010 Chestnut Street, Philadelphia* (Queen & Co., Philadelphia, 1896).

20. Somerset's stereopticon: *Trenton State Gazette*, Nov. 7, 1861. Watkins' stereopticon: *Philadelphia Press*, Aug. 31, Sept. 1, 2, 3, 4, 5, 11, 16, 18, Oct. 13, 27, 1863; *Philadelphia Inquirer*, Sept. 4, 15, 17, 18, 1863. A broadside from Erkki Huhtamo's collection advertising Watkins' stereopticon at Wallack's Theater in New York was published in *The Magic Lantern Gazette*, vol. 18, no. 4 (Winter 2006), p. 16. Barnum: *New York Times*, May 5, 1863. Guillou stereopticon: Philadelphia *Press*, May 28, 30, 31, Sept. 20, 1864. Major Monroe stereopticon: *Hartford Daily Courant*, Jan. 30, 1864. Jones & Johnson stereopticon: *Erie Observer*, Sept. 7, 1865. James stereopticon: *Brooklyn Daily Eagle*, May 16, 1865. Beecher: *New York Times*, June 8, 1865.

21. "The stereopticon, as it is called": An Optical Wonder, *The Merchants' Magazine and Commercial Review*, May 1868, p. 430. "Any stereoscopic picture": Pamphlet from the W. Mitchell McAllister Company of Philadelphia, dated Nov. 1869; reprinted in *ML Bulletin*, vol. IV, no. 2 & 3 (Oct. 1982), pp. 21-23; original in collection of Larry Rakow.

22. Musser, *Emergence of Cinema*, p. 30; Huhtamo, Stereopticon Lantern, p. 292 [see note 7]. Musser cites as his source of information Marcy's *Sciopticon Manual*, and indeed, Marcy did state that "Glass transparencies made for the stereoscope, when cut in two, with clear glass covers instead of ground-glass, are extensively used for lantern slides." He also described a simpler method of producing lantern slides: "Fortunately each half of a stereoscopic view is 3 inches square, so that lantern slides of standard size can be printed by contact from stereoscopic negatives" (L. J. Marcy, *The Sciopticon Manual*, 6th edition, James A. Moore, Philadelphia, 1877, p. 52). The latter practice continued for decades, with companies like the Keystone View Company producing the same images as glass lantern slides and cardboard stereo cards.

23. Langenheim 1861 catalog, p. 28 [see note 18].

24. *New York Observer and Chronicle*, July 2, 1863.

25. *New York Times*, June 18, 1863;

26. *Brooklyn Daily Eagle*, May 9, 1863.

27. McAllister Pamphlet, *ML Bulletin*, vol. IV, no. 2 & 3, p. 21.

28. Prof. Edwin Emerson, On the Perception of Relief, *American Journal of Science and Arts*, vol. 34 (Nov. 1862), p. 106. A similar explanation of the apparent stereoscopic effect of images projected by a stereopticon was given by magic lantern manufacturer C. T. Milligan: "The same law [as for the stereoscope] applies to the projection of a *single* picture by the stereopticon. Dazzled by its light, lines, and shadows we seem to see solid objects in relief. Certain purists have objected to the use of the word 'stereopticon,' because, *theoretically*, a stereoscopic effect cannot be obtained from one picture. But what are those theories worth when practice demonstrates that one picture, thoroughly illuminated, is sufficient? The looker-on who has gazed wistfully up a Parisian boulevard, or with curiosity beheld a street in Pompeii, or with admiration peered through the richly-sculptured corridor of a castle in France or a convent in Spain, can with difficulty convince himself that these are but semblances of things far away, so real do they appear; and he will unhesitatingly admit the force and propriety of calling the magical instrument a 'stereopticon.'" [Article from Milligan's *The Exhibitor*, quoted in *The British Journal of Photography*, vol. XXV (Aug. 9, 1878), p. 378].

29. An Optical Wonder, *The Merchant's Magazine and Commercial Review*, May, 1868, p. 430.

30. The relationship between the Langenheim brothers and Dr. Kirkbride is discussed in Beth Haller and Robin Larsen, Persuading Sanity: Magic Lantern Images and the Nineteenth Century Moral Treatment in America, *Journal of American Culture*, vol. 28 (2005), pp. 259-272.

31. Dr. Kirkbride's report is quoted in *The American Journal of Medical Sciences*, new series vol. XLVIII (1864), p. 197.

32. The only co-occurrence of "stereopticon" and "dissolving views" in the *American Periodicals Series* for the 1860s is: The Stereopticon, *Zion's Herald*, Nov. 18, 1869. This brief announcement refers to "Stereoptic Dissolving Views" presented by Mr. G. H. Loomis of Boston.

33. Marcy, *Sciopticon Manual*, p. 28 [see note 22].

34. Worthington Hooker, *Science for the School and Family, Part I, Natural Philosophy* (Harper & Brothers, New York, 1883), p. 331.

35. T. H. McAllister, *Catalogue of Stereopticons, Dissolving View Apparatus, and Magic Lanterns....*, November, 1901, p. 5 (Wells collection). I have not been able to examine earlier catalogs to determine whether McAllister consistently used this terminology throughout the 19th century.

36. McIntosh Battery & Optical Company, *Illustrated Catalogue of Stereopticons, Sciopticons, Dissolving View Apparatus....*, 1895 [available online through Google Book Search].

37. Examples of the stereopticon being defined as an "improved magic lantern" include the following: The Stereopticon as a Means of Scientific Illustration, *The Pennsylvania School Journal*, vol. XVII (Oct. 1868), p. 104 ["The old magic lantern, which was used principally for the purpose of amusement, was illy adapted for school illustrations. The Stereopticon was constructed and so improved, both in the mode of illumination and optically, that not only was it much better suited for public entertainment, but it has also become a most valuable auxiliary to the teacher."]; W. L. Alden, A New Attraction for Sunday-Schools, in *Domestic Explosives and other Sixth Column Fancies* (Lovell, Adam, Wesson & Company, New York, 1877), p. 246 ["That improved species of magic lantern, the stereopticon, eclipsed all other attractions..."]. Many school textbooks of Physics and Natural Philosophy used the terms "magic lantern," "stereopticon," "projecting lantern," and "optical lantern" interchangeably, often with an illustration of a single lantern. Some of these definitions specified the use of a powerful illuminant such as limelight: John D. Quackenbos, et al., *Appleton's School Physics* (American Book Company, New York, 1891), p. 353; Isaac Sharpless, George Morris Philips, and C. Canby Balderston, *Natural Philosophy* (J. P. Lippincott, Philadelphia, 1892), p. 186; C. L. Hotze, *Natural Philosophy* (Becktold Printing and Book Mfg. Co., St. Louis, 1897), p. 330; Samuel P. Sadtler and Virgil Coblentz, *A Text-Book of Chemistry* (J. P. Lippincott, Philadelphia, 1898), p. 75; Robert Andrews Millikan and Henry Gordon Gale, *A First Course in Physics* (Ginn & Company, Boston, 1906), p. 434; Edwin J. Houston and Alfred N. Seal, *The Elements of Physics* (Hinds, Noble & Eldredge, New York, 1912), p. 220; N. Henry Black and Harvey N. Davis, *Practical Physics* (Macmillan, New York, 1921), p. 444. Other sources that defined the stereopticon as a magic lantern using powerful illumination include: William G. Peck, Levi S. Burbank, and James I. Hanson, *Introductory Course of Natural Philosophy* (A. S. Barnes & Company, New York, 1881), p. 391; Charles Morris, ed., *Winston's Cumulative Loose-Leaf Encyclopedia* (John C. Winston Company, Chicago, 1921). A number of sources, all published the late 19th or early 20th century, defined the stereopticon as a biunial lantern, a matched pair of lanterns, or a dissolving lantern: Jex Bardwell, Optical Lanterns, *Wilson's Photographic Magazine*, vol. XXXIV (1897), p. 279; Elroy M. Avery, *Elementary Physics* (Butler, Sheldon & Co., New York, 1897), p. 206; *Hawkins' Electrical Dictionary* (Theodore Audel & Company, New York, 1910), p. 423. Several contemporary sources stated that a stereopticon could be a single, double, or even a triple lantern: *Appleton's Annual Cyclopedia and Register of Important Events of the Year 1900* (D. Appleton, New York, 1901), p. 758; William Estabrook Chancellor, *Our City Schools: Their Direction and Management* (D. C. Heath & Co., Boson, 1908), p. 78-79; James R. Cameron, *Motion Picture Projection* (The Theatre Supply Co., New York), p. 17. Some very late sources illustrated the stereopticon as a single lantern, similar to the Bausch and Lomb Balopticon: *The World Book* (World Book, Inc., Chicago, 1918), p. 5548; Gilbert H. Trafton, *Science of Home and Community* (Macmillan, New York, 1921), p. 450. Two dictionaries inaccurately defined the stereopticon as a device for projecting pictures with stereoscopic effect: John Ogilvie, *The Imperial Dictionary of the English Language* (Blackie & Son, London, 1883), vol. 4, p. 202; Edwin J. Houston, *A Dictionary of Electrical Words, Terms and Phrases* (P. F. Collins & Son, New York, 1903), vol. 2, p. 941.

38. Intellectual Training in General, *American Journal of Education*, vol. X (1861), p. 125.

39. The Border-Land of Dreams, *Harper's Bazaar*, July 10, 1869, p. 28.

40. Life and its Enigmas, *Lippincott's Magazine of Literature, Science and Education*, Feb. 1868, p. 3.

41. *The Southern Review*, Apr. 1868, p. 6.

42. Writings of Nathaniel Hawthorne, *The Southern Review*, Apr. 1870, p. 18.

43. Thomas Carlyle, *New Englander*, May 1881, p. 183.

44. Arctic Mosquitoes, *New York Observer and Chronicle*, May 20, 1875, p. 20.

45. Alfred M. Williams, The Giants of the Plain, *Lippincott's Magazine of Popular Literature and Science*, Oct. 1883, p. 6.

46. The Magic Lantern City, *New York Evangelist*, March 5, 1896, p. 10.

47. The Bismarck Dynasty, *Eclectic Magazine of Foreign Literature*, March 1889, p. 10.

48. This explanation was suggested to me by Karl Link at the Washington Convention in 2008.

49. Oliver Wendell Holmes, The Doings of the Sunbeam, *Atlantic Monthly*, July 1863, pp. 1-16.

50. James Franklin Fitts, The Stereoscopticon: or, Natural Science in Brambleville, *Flag of Our Union*, Apr. 28, 1866, p. 17.

51. *New York Times*: Nov. 19, 30, Dec. 14, 21, 1863; Jan. 11, Feb. 22, 1864; Dec. 19, 20, 1865; *New York Observer and Chronicle*: Jan. 28, Feb. 11, 1864; Apr. 13, 1876; *Hartford Daily Courant*: Mar. 18, 23, 26, 28, 30, 1863; May 23, 1865; *New Haven Daily Palladium*: Mar. 9, 1863; *Columbus (Ohio) Daily Enquirer*: Feb. 6, 8, 1866; *Idaho Statesman*: Oct. 4, 6, 1866; *San Francisco Bulletin*: Mar. 23, 1867; *Albany Evening Journal*: Apr. 1, 1868; *St. Paul Daily Pioneer*, Dec. 31, 1872. There also is a broadside in rather poor condition in the collection of the Maine State Museum for "Pierce Brothers Stereoscopticon Panorama of The American Civil War;" but no date or venue is specified.

52. Augusta Georgia *Daily Constitutionalist*, Mar. 26, 27, 29, 30, 1864.

53. *Thirty-fourth Annual Report of the Trustees of the State Lunatic Hospital at Worcester*, Oct. 1866; *Biennial Report of the Board of Trustees of the Michigan Asylum for the Insane for the Years 1865 and 1866,* p. 44. *Superintendent's Report of the Wisconsin State Hospital for the Insane*, 1872, p. 27. *One Hundred Years' Progress of the United States* (L. Stebbins, Hartford, Connecticut, 1871), p. 443 [use in Auburn, New York asylum].

54. James W. Queen & Co., *Priced and Illustrated Catalogue of Magic Lanterns, Stereoscopticons, and Dissolving View Apparatus*, 1869 [catalog seen on Ebay, August 2007, now in collection of Jack Judson, Magic Lantern Castle Museum, San Antonio].

55. Langenheim advertisement, *New Hampshire Sentinel*, 1866.

56. Article from Milligan's *The Exhibitor*, quoted in *The British Journal of Photography*, vol. XXV (Aug. 9, 1878), p. 378.

57. *San Francisco Bulletin*, 1872.

58. Broadside in collection of American Antiquarian Society (available online in *American Broadsides and Ephemera, Series 1*).

59. Testimonial letter to Joseph H. Ely about Stereophan exhibition: *Lowell Daily Citizen*, Mar. 17, 1863.

60. Transfer of Ely's Stereophan to Ephraim Brown: *Lowell Daily Citizen*, Mar. 19, 1863. Short announcements for Stereophan exhibitions to benefit wounded soldiers: *Lowell Daily Citizen*, Mar. 21, 26, 27, 1863. The American Antiquarian Society has two broadsides for Brown's Stereophan exhibitions. One was held at the Lyceum Hall, Dorchester, Massachusetts, Mar. 31-Apr. 2, 1864 (American Antiquarian Society Ephemera Pop 0084); the other is for an exhibition at Mechanics' Hall, Worcester, Jan. 1-4, 1864 (American Antiquarian Society Ephemera Worc Theat 0218). Neither of these broadsides is included in the *American Broadsides and Ephemera* online database.

61. Short announcements for Ely's Stereophan: *Lowell Daily Citizen*, Apr. 8, 9, 10, 12, 1867.

62. *Portland Daily Advertiser*, Nov. 23, 25, 28, 1863; *Lowell Daily Citizen*, Oct. 30, 1866.

63. *Lowell Daily Citizen*, Jan. 7, 1868.

64. Susan Sutton Smith and Harrison Hayford, eds., *The Journals and Miscellaneous Notebooks of Ralph Waldo Emerson* (Harvard University Press, Cambridge, Massachusetts, 1978), vol. 14, p. 363. Information about the Stereorama at the Concord Lyceum is in a footnote citing the records of the Lyceum. The mention of "Cornelius Agrippa" refers to Heinrich Cornelius Agrippa von Nettesheim (1486-1535), a German philosopher and proponent of natural magic, who speculated about the use of mirrors to project images on the moon. A pamphlet on Fallon's Stereopticon in the American Antiquarian Society quotes Emerson praising the Stereopticon, including this passage: "We all remember the graceful poem in the Lay of the Last Minstrel [a poem by Sir Walter Scott] in which Cornelius Agrippa shows the Earl of Surrey the fair Geraldine in the magic mirror." Scott's poem compared the image in Agrippa's mirror to a dream: "But soon, within that mirror huge and high/ Was seen a self-emitted light to gleam/ And forms upon its breast the Earl 'gan spy/Cloudy and indistinct, as feverish dream." This echoes Emerson's statement that the change of pictures in the Stereorama "beat the faculty of dreaming."

65. Panorama, in *Encyclopedia Americana* (Cary & Lea, Philadelphia, 1832), vol. IX [the same definition of stereorama appears in the 1851 edition].

66. Advertisement for the Stereorama of Switzerland being completed at Cremorne Gardens, *Glenny's Illustrated Garden Forget-Me-Not* (Cassell, Petter and Galpin, London, 1860), p. 24.

67. Exposition Sideshows, *New York Times*, Sept. 9, 1900, p. 16.

68. *The Illustrated Photographer* (London), Sept. 24, 1869, p. 444.

69. An abstract of the Proceedings of Friends' Social Lyceum of Philadelphia for the winter of 1864-'65, *Friends' Intelligencer*, Apr. 29, 1865, p. 8.

70. *Friends' Intelligencer*, vol. XXIII (1867), p. 106.

71. Address Read at the last Annual Meeting of Race Street First day School, *Friends' Intelligencer*, Dec. 9, 1871, p. 41.

72. *Trenton State Gazette*, Feb. 23, 1867.

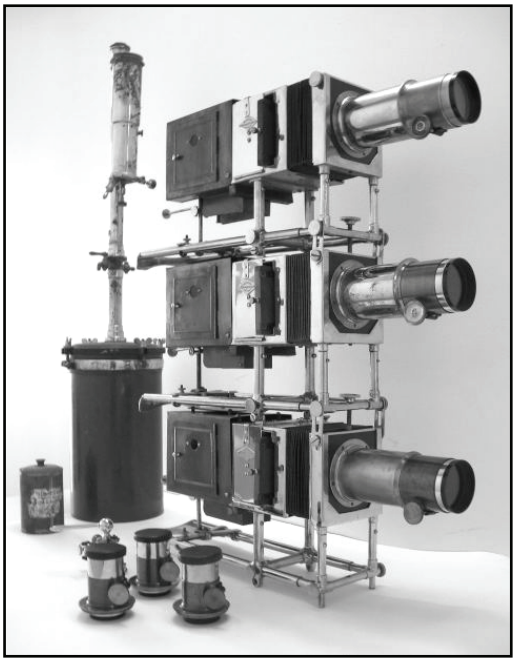
73. Hockenjos, The Sciopticon in Sweden [see note 1].

74. Thomas L. Hankins, How the Magic Lantern Lost its Magic, *Optics and Photonics News*, Jan. 2003, pp. 34-40.

75. *New York Times*, Jan. 20, Feb. 3, 17, Mar. 3, 10, 24, Apr. 14, July 27, 1890; Jan. 5, June 7, 28, 1891; Jan. 17, Feb. 14, Oct. 9, 1892. All of these articles are about meetings of amateur photographers and could have been written by the same reporter.

76. Advertisement for "M'Allister's Patent Artopticon," with illustration, *Arthur's Illustrated Home Magazine,* Dec. 1873, p. 12 [described as "The strongest, most compact and powerful Magic Lantern ever made"]; E. & H. T. Anthony advertisement for various magic lanterns, including the Artopticon, *New Englander*, April, 1876.

77. Announcement of "An Artopticon Entertainment, by Mrs. J. P. Newman, illustrating her recent tour around the world," *Christian Advocate*, Jan. 15, 1880, p. 3.



McIntosh triunial stereopticon (c. 1900).
Erkki Huhtamo collection.

# A Beginner's Guide to Scanning Magic Lantern Slides

Michael C. F. Lawlor
450 Heatly Ave.
Vancouver BC V6A 3G5, Canada
mclawlor@gmail.com

Scanning magic lantern slides is a simple procedure to learn, but many collectors may not know how to begin. Even if it is not done correctly this process will not damage your slide or your computer. You can start scanning before you understand everything and trust that things will become clear with practice. This article is designed to help you get started.

I will talk about scanners, ppi (pixels per inch), dpi (dots per inch), types of file and their uses. My discussion uses simplified explanations that may be questioned by geeks, but they work for me.

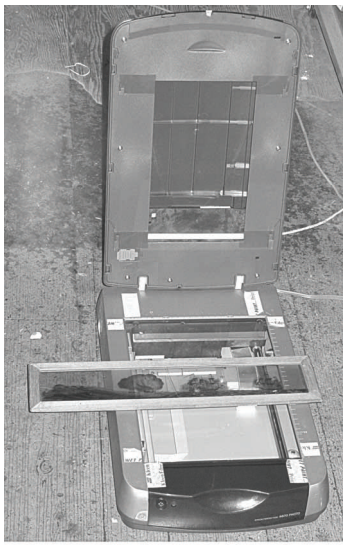
**Selecting a Scanner**

There are two types of scanners, drum scanners and flat-bed scanners. Forget about drum scanners because: a) glass slides cannot be wrapped around a drum, and b) flat-bed technology has improved dramatically since 1990, when a drum scanner was required to get professional quality scans.

There are two modes of flat-bed scanners, reflective and transparency. A reflective scanner operates like a photo-copier: it shines a light from below onto whatever is being copied and the light is reflected back to a receiver which stores the information. A transparency scanner shines a light from above through the material being scanned. You will need a transparency scanner for slides. (Some companies refer to transparency scanners as 'film or negative' scanners.)

Basic office and home use scanners are reflective, and are designed to scan 8.5" X 11" paper. One step up from a basic scanner is a scanner with a transparency adaptor that looks like a lid with a light in it that fits over the item to be copied so it can transmit light through it. Adaptors are measured by how large a transparency they can scan, and you should note that a standard US format glass slide is 3.25 X 4".

My scanner is a four year old Epson Perfection 4870 Photo scanner with a 6" X 9" transparency adaptor. It was a $600 item then, but should be available used for less than $150. Other companies, including Canon and HP, make comparable scanners. I like this type of scanner, because it lets me put any size of original on it, even if it is bigger than the scanning area. I can make multiple scans of a big original and stitch them together later. Any sort of scanner with drawers or slide-in shelves should be avoided, because they are designed with a standard in mind which may not allow for ½ inch thick wood mounts, or 17 inch long glass slides.



**Left:** Flatbed scanner open, showing transparency adapter in lid and slide in position. **Above:** Scanner closed, ready to scan lantern slide.

**Choosing a Scan Size**

After you have set up your scanner and have placed a slide front face down on the scanner bed, you have to tell the scanner at which to scan it (If your scanner has an 'Auto' mode, get out of it and go to a mode where you can control it. 'Auto' mode in any program makes wrong assumptions about what you want. On my Epson I use 'Professional Mode'). Size, a measure of resolution, is measured in pixels per inch (ppi), or in dots per inch, (dpi). For now, treat dpi and ppi as interchangeable terms, and ignore the following note in brackets. [There is much confusion, even within the imaging industry, over the use of dpi and ppi. Scanners scan in pixels per inch, (ppi), and all monitors operate with respect to ppi. Dots per inch (dpi), is only relevant when you are printing an image, and a useful assumption is that all digital printers print at 300 dpi].

The size you need depends on what you want to do with your scan. Is your use **monitor based**, that is, you want to view pictures on your computer screen, perhaps making them part of a slide show? Are they to being placed in a web page, or getting emailed to other people? If you want to make prints, your use is **print based**, and you need to know how big a print you want.

Recommendations of 'correct' scanning sizes are based on efficient use of computer memory. A high scanning resolution yields a large file, which makes more demands on your computer and may slow it down. If you have a large memory and a very fast computer, you may scan to a high resolution and resize your image file later as appropriate for different purposes.

File sizes for images grow geometrically in proportion to their ppi size. A 2" X 3" scan will create different file sizes depending on its resolution. ('Resolution" is how many dpi or ppi you have.)

150 ppi 395.5K
300 ppi 1.54M
600 ppi 6.18M
1200 ppi 24.7M
2400 ppi 98.9M
3200 ppi 175.8M
4800 ppi 395.5M

**Figure out how many pixels you want your scan to have for its intended purpose.** You will set your scanner to 'positive film' or 'transparent' mode.

For **printing**, you want 300 dpi for every inch of the final size. If you are scanning a 2" X 3" original and want the final print to be 6" X 9", your enlargement factor is 9/3=3. Multiply 300 ppi by 3 and set the scanner at 900 ppi. The basic formula here is 300 ppi times how much the print is going to be larger than your original.

Another way to determine how many ppi to scan at is to figure out how many pixels or dots you need for one edge of your final product, in this case a 6" X 9" digital print. Digital printers want 300 dots per inch, so multiply the width, 9", by 300 to get 2700 dots. Then take the wide dimension of the 2" X 3" slide being scanned, 3", and divide it into 2700 dots (2700/3=900) to get 900 ppi.

Scanning for **monitor** or **web based** images is even easier to calculate. The number of pixels you need will depend on how much of your monitor screen you wish to use. An average 17 inch monitor is 1024 pixels X 768 pixels.

Figure out how many pixels across you want your copy to be, and divide the width, in inches, of your original into that. A full-screen image will be 1024 pixels wide. Divide 1024 by the width of your original 2" X 3" slide to determine the scanning resolution. 1024 pixels/3 inches=341 ppi. Scan at 341 ppi. If your scanner has fixed settings, get as close to that as you can.

If you want the picture to take up half of your monitor, divide the width of your monitor (1024 pixels) by 2 (1024/2=512) to know your finished image wants to be 512 pixels wide. Divide 512 by the width of your original 2" X 3" slide to determine the scanning resolution. 512 pixels/3 inches=170 ppi. Scan at 170 ppi, or, if your scanner has fixed settings, get as close to that as you can.

For this article I used a 17 inch monitor as a guide, although smaller screens may be only 800 X 600 pixels. If you want to let people with inexpensive equipment see your image without scrolling or resizing ,you can use that as a guide.

**Software and File Types**

To change your image, for example, to make it darker, or to add contrast, you need an imaging software program. An inexpensive version of Photoshop is called Photoshop Elements. It is so inexpensive that it often comes bundled on a CD with digital cameras or scanners. Most computers come with imaging software, such as iPhoto in a Mac, and there are other programs in PC's. Photoshop Elements will allow you to enrich your image in many ways, and will then allow you to save your image as a file. At this point you can choose what type of file to save your images as. Do not freak out over this choice; it can be changed later. You need to know about two basic types of files, TIFF and JPEG. In computer file names they are abbreviated to tif and jpg.

**TIFF** files were invented as a universal file that can be read by any imaging program. You can send a TIFF file to a printing company that uses a different program than you do, and they can put it in their program and print it. TIFF makes your file a little bit smaller, and maintains image quality when it opens.

**JPEG** files are designed to compress your image into a very small file that does not take up very much space when being transferred over the internet. You can use JPEG to compress your file to different qualities, from high to low, and your files size will correspondingly be larger or smaller. Since smaller files open faster, this is great for e-mails, posting to web sites, or loading into programs for slide shows. Smaller JPEG files are also great copyright protectors, since they deteriorate when enlarged.

TIFF files are known as lossless files because they do not lose information when they are compressed and re-opened. This makes them good for times when it is important that the quality of an image be maintained, as when it is going to be printed. TIFF files are larger than JPEG files.

JPEG files are lossy files because they do lose information in the process of compressing and opening. To save space they do not record the information on each and every pixel in the image, but select certain pixels to record. When it re-opens, it makes an educated guess at what should be in between those points.

If you are not sure which file type you want, choose TIFF. Later, if you need to, it can also be saved as a JPEG. Once you have saved your file you can store your image until you want to use it.

**Summary**

1. Use a flatbed scanner with a transparency adaptor large enough for the slide you want to scan.

2. Find out the size of the image you are scanning.

3. Decide what size you want the final image to be, whether as a print or as an image on a monitor.

4. To make a print: Determine the enlargement factor by dividing the width of the original into the width of the final image. Multiply the enlargement factor by 300 pixels and scan.

5. For a monitor image: Determine how many pixels wide you want your monitor picture to have. Divide that by the width in inches of your original and scan.

6. Save your image as a TIFF or JPEG.

You can now print your image on any color desktop printer, or send it as an attachment in your email.

I find it much harder to write out these instructions than it is to give this information by talking with someone. If you are still confused just make a scan and see what it looks like. Mistakes just give you less efficient files, and that can be corrected later by resizing in an imaging program. Digital printers are very friendly, and have wonderful abilities for printing from 'inefficient' files. Have fun playing around and it will soon seem very simple and easy.

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**Michael Lawlor** is a Canadian artist, writer and curator who has been working with Magic Lantern slides for over 15 years. He specializes in Canadian Magic Lantern slides, and prepares magic lantern slide lectures on Canada. He presented lectures at the Seattle and Washington Conferences of The Magic Lantern Society of the US and Canada. His digital print exhibition of 80 Canadian Pacific Railroad magic lantern slides is currently on an extended tour to galleries and museums across Canada.

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**Editors Note:** A relatively easy alternative to scanning for copying magic lantern slides, especially for use in publications or PowerPoint presentations, is to photograph the slides with a good quality digital camera. Most of the color covers on recent issues of the *Gazette* have been produced in this way. I use a Nikon D70S single-lens reflex camera, but there are more recent models with even higher resolution (probably more than needed unless you plan to make lantern slides into posters). When photographing slides in color, it is important to have the correct illumination spectrum. I use The Light Box (10" X 12") by Porta Trace (model 1012-2) with 5000K fluorescent bulbs, which gives a spectrum similar to that of natural sunlight (available on the internet from B & H Photo in New York).

## Society News and Announcements

Its time to pull out all those holiday or winter slides, dust off a lantern, gather family, friends and neighbors and share the magic of the magic lantern with your own special show. Haven't done this before? Give it a go! Wow, just think if we all did it there would be over 125 magic lantern shows this month.

The Group email "Coming Attractions and Tidbits" is working well and generating not only positive feedback, but more interaction with members. If you are not receiving it, it means that we do not have an email address for you (you can get one free on Yahoo or other sites), or that the address we have is not correct. In either case please let me know so we can get it to you.

Work on the By-law revisions is almost complete. You will be getting separate notification about this since they must be approved by a majority of the voting membership. The primary purpose of the change is to allow us to be able to pursue a federal non-profit status for the society.

Convention planning (May 21- 23, 2010) is gaining momentum, and there will be more announcements about its theme after the first of the year.

Please let me know your thoughts for the coming year to help improve the interaction among members and the growth of the society. I wonder how close we could get to having each member bring in just one new member next year? It's an interesting challenge. Membership in the society would make an excellent gift at any time of year.

Happy New Year to all and a wish for Peace on Earth

**Dick Moore, President (rmoore@aol.com)**

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**Photos of Past Magic Lantern Conventions Wanted**

Next year we will mark the 30th anniversary of the founding of our society in 1979. I hope to include some special features in 2009 issues of the Gazette to highlight the past history of the society. It would be most helpful if members could sort through their old photographs and slides and either send me orginals or jpeg scanned images of past conventions, founding members, etc. Photos can be either color or black and white. Most photos that have been published in past issues of the Gazette are not of good enough quality to scan from the printed issues, or have been cropped in ways that limits their usefulness. Scanned images can be e-mailed to me at: **kentwood.wells@uconn.edu.**

Originals can be mailed to: **Kentwood D. Wells, 451 Middle Turnpike, Storrs, CT 06268**

**Phantasmagoria at the Rubicon Estate**

Temperance was not in evidence on All Soul's Day when the American Magic Lantern Theater unleashed a Halloween spectacular at the Rubicon Estate, a winery in California's Napa region. Owned by Francis Ford Coppola, the Rubicon Estate houses the filmmaker's own collection of phantasmagoric devices, elegantly displayed in glass cases like the conjurer's tools of Merlin. Seemingly materialized out of the ether of these apparatuses, Terry Borton, clad in full showman's regalia, made his way like Paul Revere through the tasting rooms, sounding the gong to herald Bacchanalians to the limelight. Revelers included Society members Sharon Koch and Betty Peabody who had braved the rain to fly in on magic carpets for the occasion.

To steel nerves against Halloween fright, guests were handed a glass of the winery's own bubbling elixir as they entered the performance space, where barrels of wine large enough to have satisfied Goliath faded into the background against the dazzling rays of Borton's lantern alchemy. In a seamless choreography of sequencing, theatrical drama and audience participation, the troupe bestowed immortality upon Joseph Boggs Beale's rendition of Edgar Allen Poe's *The Raven*; twirled the mechanical monkey silhouette slide into the 21st century; terrified the crowd with scary skeleton slip-slides; and used an original English glass tank slide as an expedient for projecting Rorschach images created by the ooze of an unspecified red liquid.

Some members of the audience were so overcome by the spectacle that, in order to steady themselves, they returned to the sanctity of the tasting rooms before the completion of the show. Yet most were mesmerized by the American Magic Lantern Theater's performance. Befitting of All Soul's Day, the spirit of the cinema shone forth through the double beams of the biunial, a red carpet unfurled to the realm of dreams and imagination—**submitted by Janet Leigh Foster**.

Terry Borton in action at the Rubicon Estate.

Display of zoetropes and praxinoscopes at Rubicon Estate.

Magic lanterns on display at the Rubicon Estate.

Terry Borton, Debbie Borton (back) and Sharon Koch.

Top: The Pilgrims leaving England.  Bottom: The *Mayflower*

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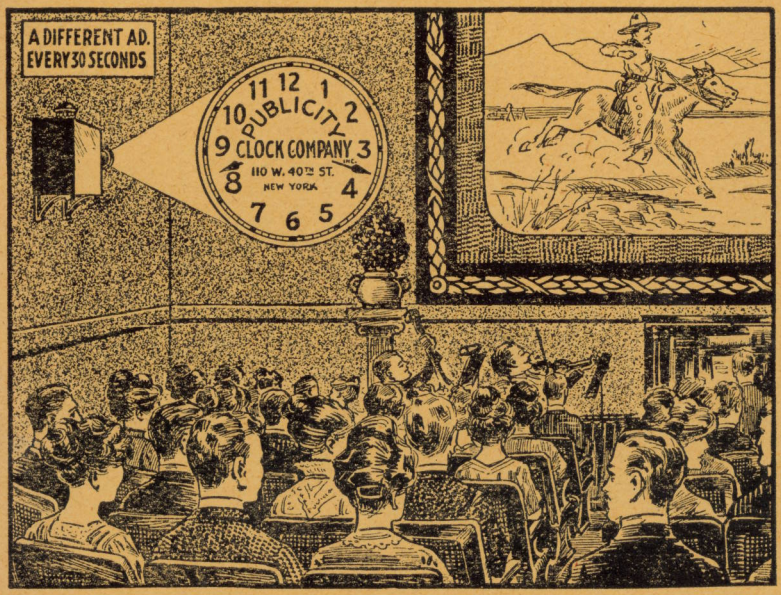
# Publicity Clock

**The Best and Most Refined Advertising Medium of the Present Day Always Before the Eyes of the Public**




## Publicity Clock Co., Inc.

110 West 40th St. *World's Tower Building* New York City, U. S. A.

*Phone Bryant 8839*

# The Publicity Clock

(Patented July 20, 1915, No. 1,146,839)

CAPACITY eight advertisements. An advertisement appears on the clock dial every thirty seconds.
Up-to-the-minute advertising. The most effective advertising medium of the present day.

*Turn the light "ON" your advertising*

Manufactured by

THE PUBLICITY CLOCK CO., Inc.

*World's Tower Building*

110 West 40th Street

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U. S. A.

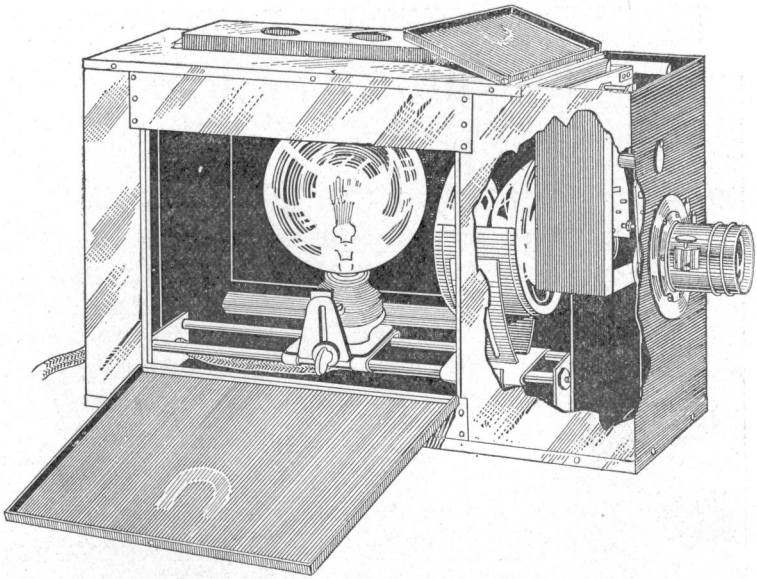
# The Publicity Clock

THE PUBLICITY CLOCK is an entirely automatic stereopticon which by means of a high power nitrogen incandescent lamp projects the dial and hands of a clock together with automatically changing advertisement to an aluminum screen, usually placed at one side of the regular moving picture theatre screen, the whole projection being in brilliant colors.

The advertisement may be projected to any desired size up to forty-eight inches in diameter. The general effect is as though one were looking at a beautiful illuminated clock face.

At intervals of thirty seconds there appears, in the center of the clock dial, eight successive advertisements. These changes are made automatically by the clock movement so that each advertisement is shown on the screen every thirty seconds, and repeats every four minutes.

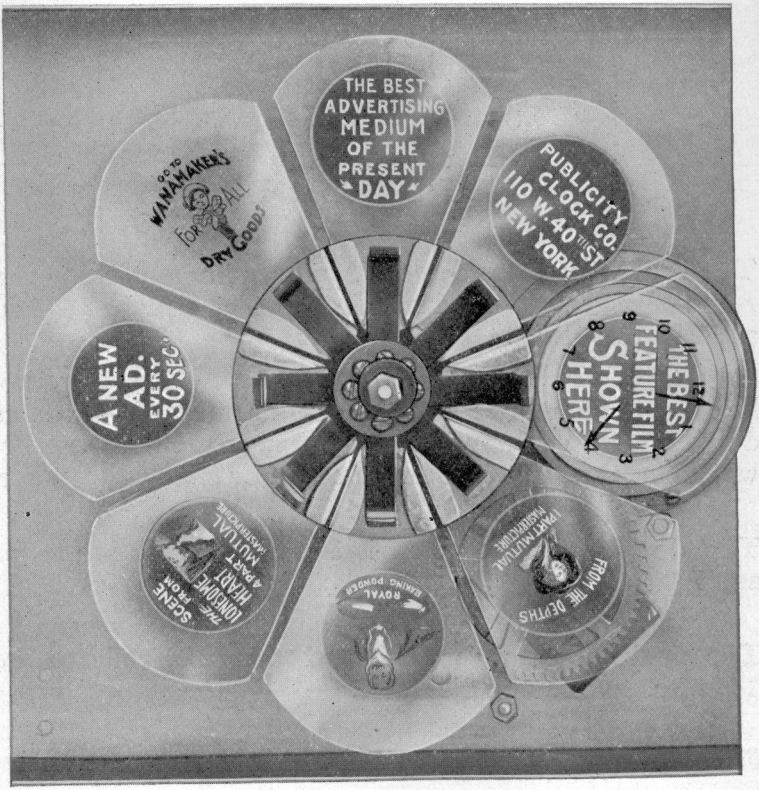
The mechanism operates noiselessly. The change in the ads is made in such way that the audience is not in the least disturbed nor is their attention in any way distracted from the picture on the screen.



# A Good Investment

THE PUBLICITY CLOCK installed in your theatre will not only bring you excellent financial returns, but will please your audience because they will constantly have before them the correct time; more than this it will accommodate your local merchants who will be enabled to place before your audience an advertisement of their goods in the very best possible form.

It will eliminate the necessity of showing advertising slides on the picture screen, which is always a source of more or less dissatisfaction to your patrons.

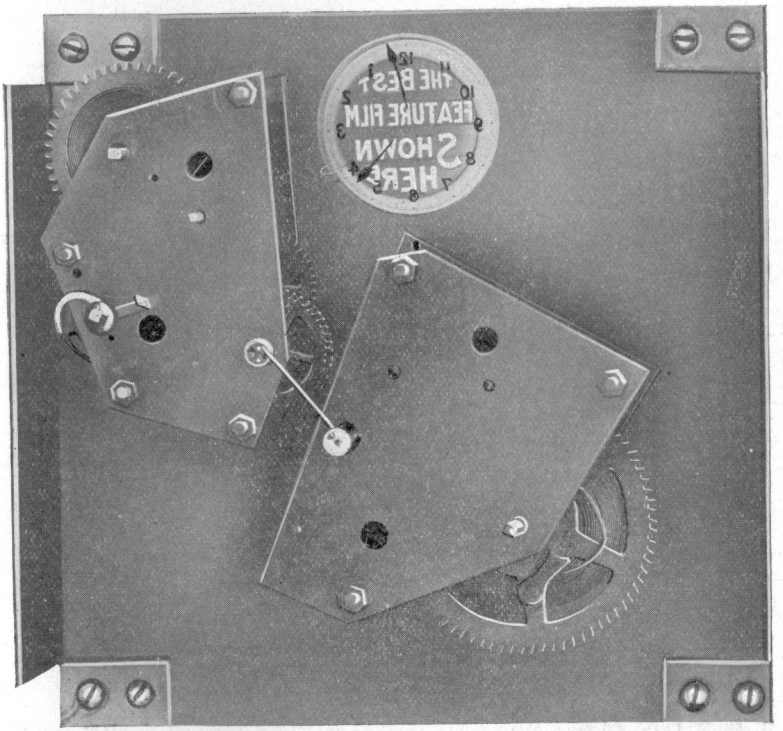



AUTOMATIC SLIDE CARRIER

The Slide Carrier holds 8 advertising slides which are supplied by this Company.

These slides may easily be taken out or inserted into the holder and each slide may be replaced without disturbing the other slides.

The following illustrations give one a very clear idea of the manner of operation; also of the general appearance of the mechanism of the machine as well as the projector in its entirety.




AUTOMATIC CLOCK MOVEMENT

Simplicity is the keynote of the construction of the Publicity Clock.

There is no complicated electrical apparatus; there is no electric motor—nothing but an ordinary, high-grade clock mechanism, which can be taken apart, cleaned, repaired and reassembled by the clockmaker in even the smallest village.

# Dimensions

The Publicity Clock weighs approximately 10 pounds. Assembled ready for business it is 12 inches high, 7 1-8 wide and 20 inches long.

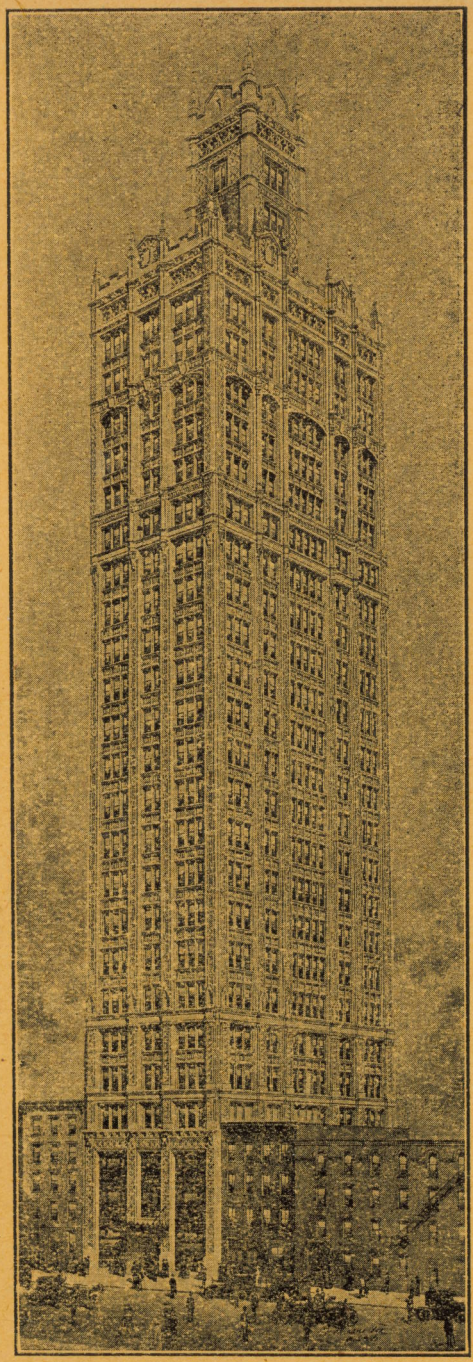
It consists of a Sheet Steel Box, a projection lens, a condensing lens, a 100 watt mazda lamp with socket and cord, which may be placed either on direct or alternating current.

The clock movement itself is 3 inches thick, 7 inches long, and 7 inches wide.

The clock face may be projected to any desired size, from 24 inches to 6 feet in diameter.

Further information concerning details, prices, etc., may be had by addressing

THE PUBLICITY CLOCK CO., Inc.
*World's Tower Building*
110 West 40th Street
New York City
U. S. A.



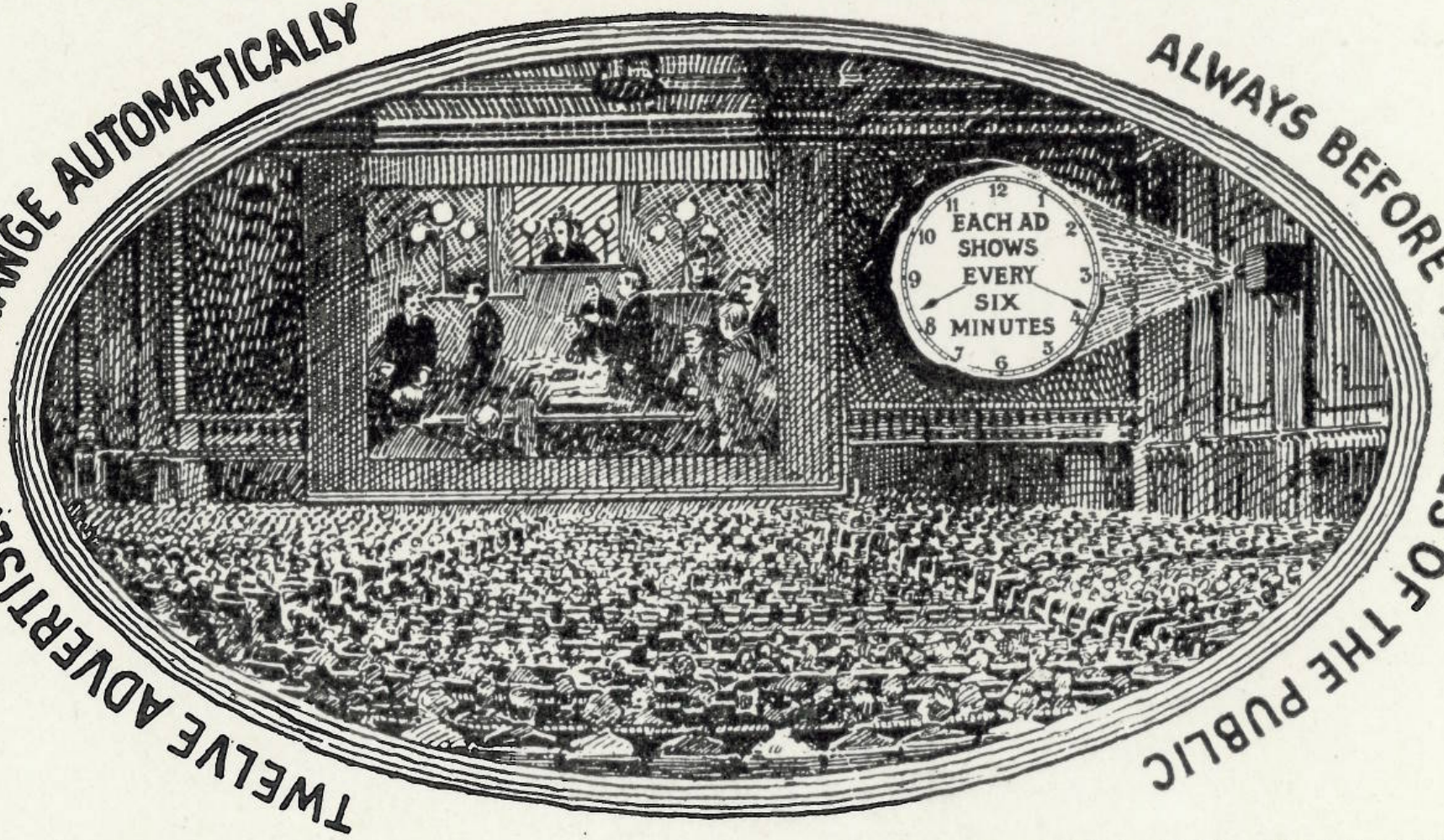
*Home of*

**THE PUBLICITY CLOCK CO., Inc.**

# PUBLICITY CLOCK COMPANY, INC.

105 WEST 40th STREET NEW YORK CITY

The Best and Most Refined Advertising Medium of the Present Day

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